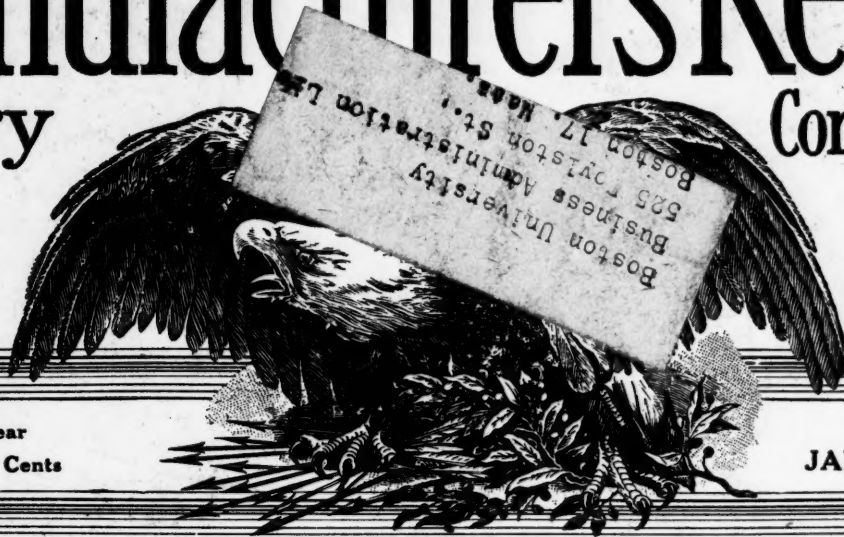


Manufacturers Record

Industry Construction



\$6.50 per Year
Single Copy, 20 Cents

Baltimore, Md.
JANUARY 29, 1931



Business Opposed to Special Session

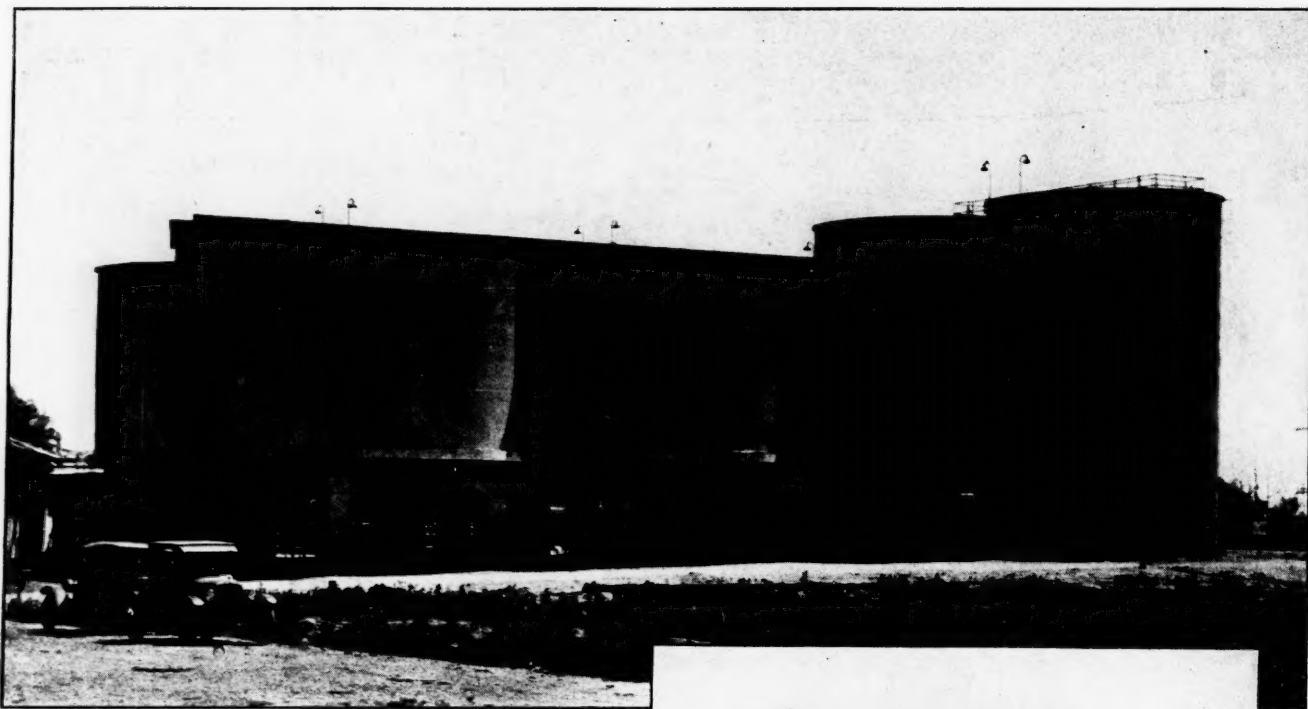
Feeling is growing that a special session of the Congress would be inadvisable.

The first session of the present Congress opened on April 15, 1929, and continued for 67 days. The second, opening December 2, 1929, ran to July 3, 1930, a total of 203 days. The third and closing session started on December 1, 1930, and will continue until March 4, a run of 94 days, except for the short Christmas intermission. The Seventy-first Congress then will have been in session about 50 per cent of the two years of its constitutional term.

No doubt some things the Congress has done ought not to have been done, likewise it has left undone some things it ought to have done, but giving full credit to the most earnest of our Senators and Representatives for their wholesouled work, it is undeniable that the debates, not alone on necessary legislation but on a great deal that was not enacted, have claimed the attention of the public and have diverted thought from industrial and business channels.

Conditions today call for concentration of thought on industry and business so that we may work out of a situation that has been distressing. Business will hesitate still further in its upward climb if the uncertainty of what may take place at Washington is always in mind. It is to be desired, therefore, that the questions which demand immediate action will be promptly gotten out of the way.

In voicing the hope that a special session will not be forced, we feel we are expressing the sentiment of the business interests of the country.



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We are equipped to design, fabricate and erect steel plate bins, hoppers, tanks and plate equipment of all kinds. Installations for Southern locations are fabricated at our new modern plant at Birmingham.

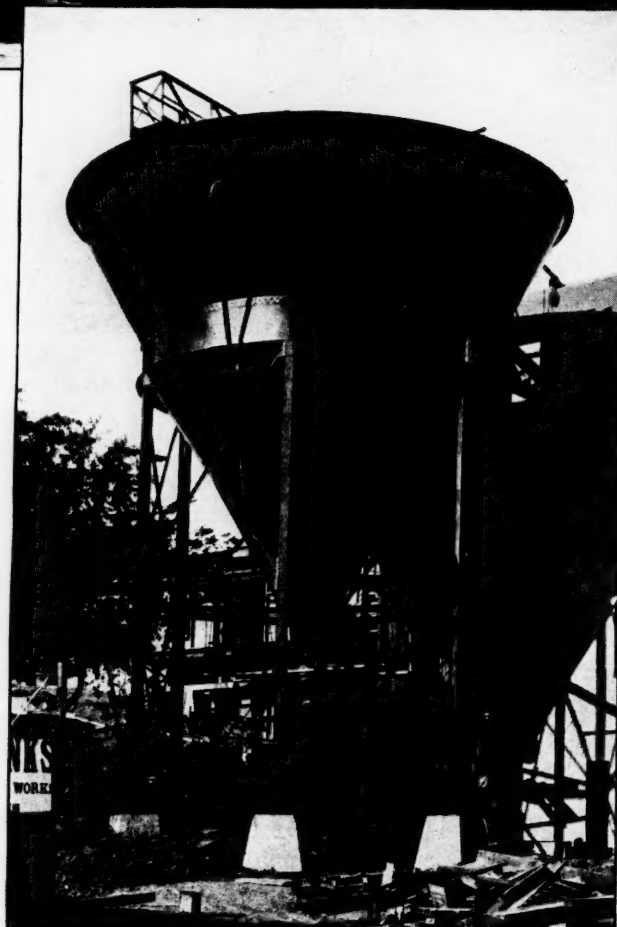
Cylindrical tanks, towers and other equipment which can be shipped in one piece are completely assembled at the plant. Larger structures are erected in the field with our own experienced crews.

Storage tanks, elevated tanks and gas holders are built in a complete range of standard sizes. Special sizes, however, are made up when the standard dimensions or capacities do not meet specific requirements.

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Cleveland.....	2216 Union Trust Bldg.
Chicago.....	2106 Old Colony Bldg.
San Francisco.....	1040 Rialto Bldg.
Philadelphia.....	1619 Jefferson Bldg.
Detroit.....	1510 Lafayette Bldg.
Boston.....	1510 Consolidated Gas Bldg.
Havana, Cuba.....	Apartado 2507



Top view: Group of storage tanks at a Southern industrial plant. Lower view: Steel cone 40 feet in diameter.

HORTON TANKS

B 201

Entered as second-class matter at the Postoffice, Baltimore, Md., under the act of March 3, 1879.

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The Ruberoid Co. gives prompt service to architects from the time they refer to Sweet's until the roof is bonded. This service covers all the popular types of built-up roofs—Asbestos, Coal Tar Pitch and Felt, and Asphalt.

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tion used. These roofs are applied only by approved roofing contractors of known ability, and the guarantee is backed by a National Surety Bond.

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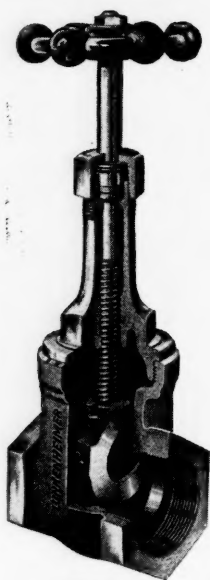
ASPHALT SHINGLES AND ROLL ROOFINGS—ASBESTOS-CEMENT SHINGLES AND CORRUGATED SHEETS—ASBESTOS, ASPHALT, COAL TAR PITCH AND FELT BUILT-UP ROOFS—ASBESTOS: SHEATHINGS, FELTS, MILL BOARD, PIPE COVERINGS—KRAFT WATERPROOF PAPERS—COAL TAR AND ASPHALT FELTS AND SHEATHINGS—ASPHALT WATERPROOFING PAINTS AND CEMENTS—DRY FELTS AND SHEATHINGS

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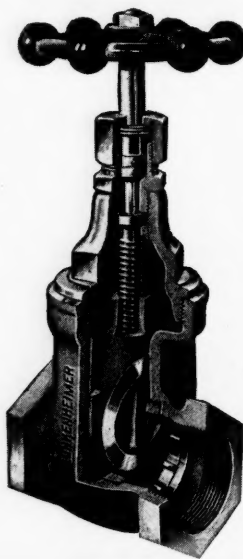
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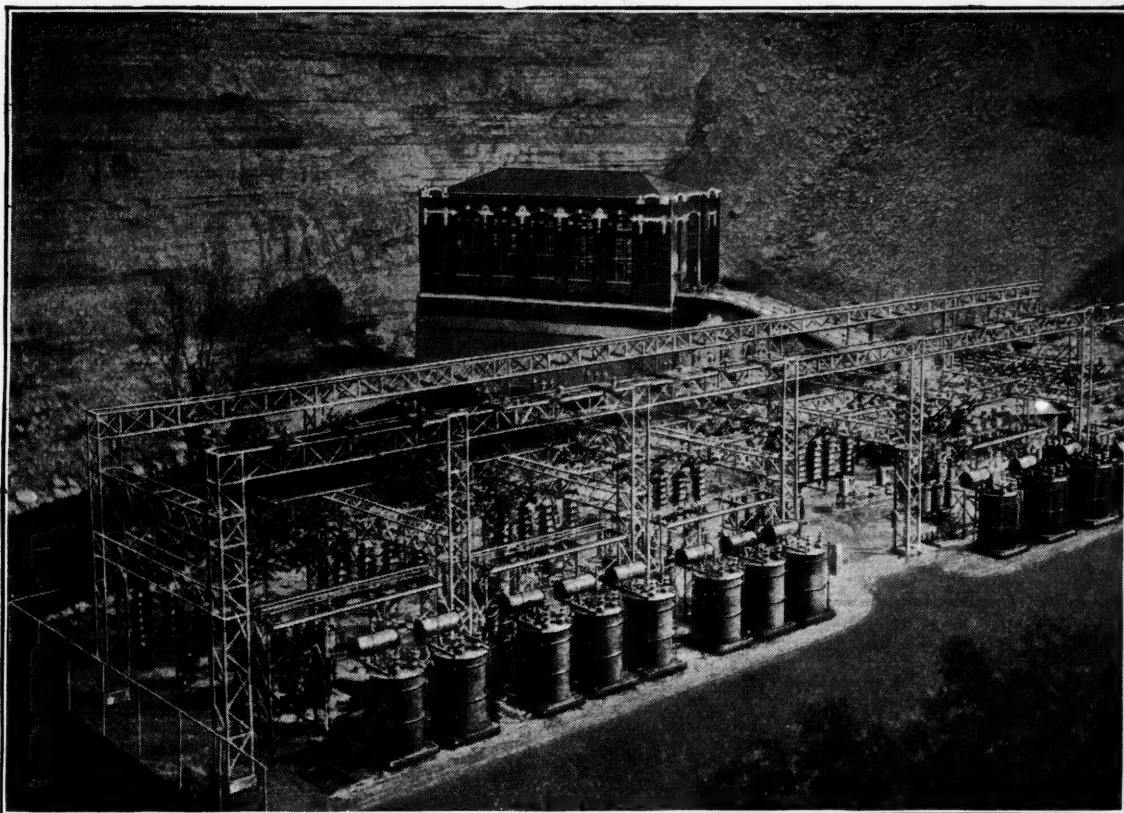
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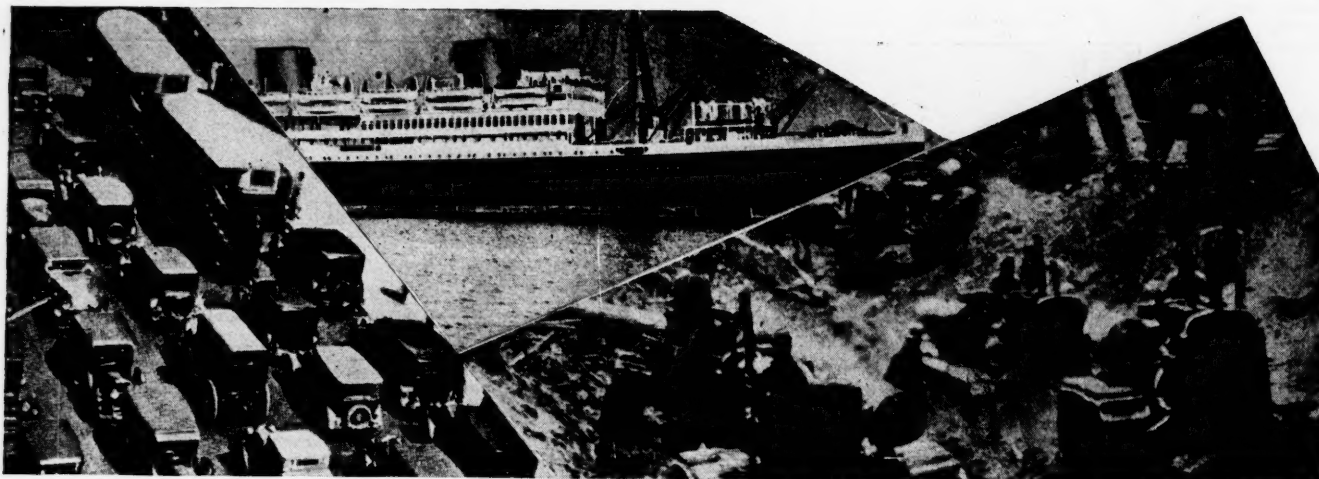
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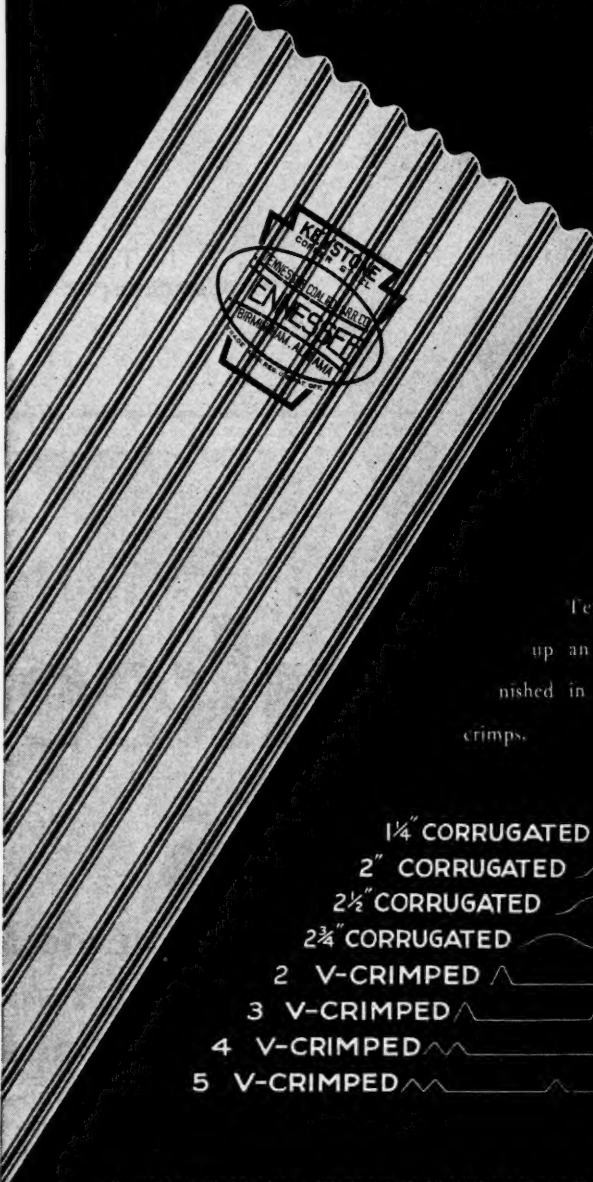
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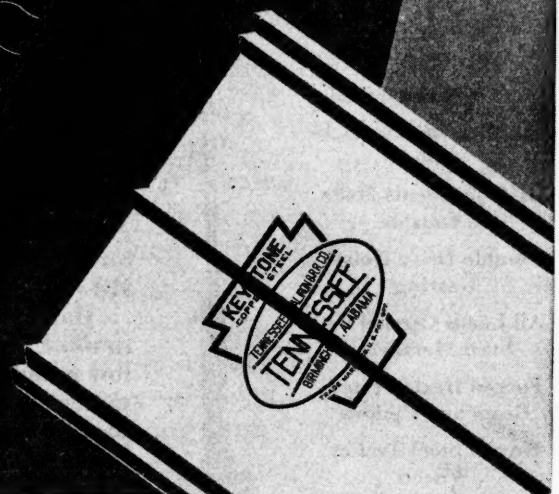
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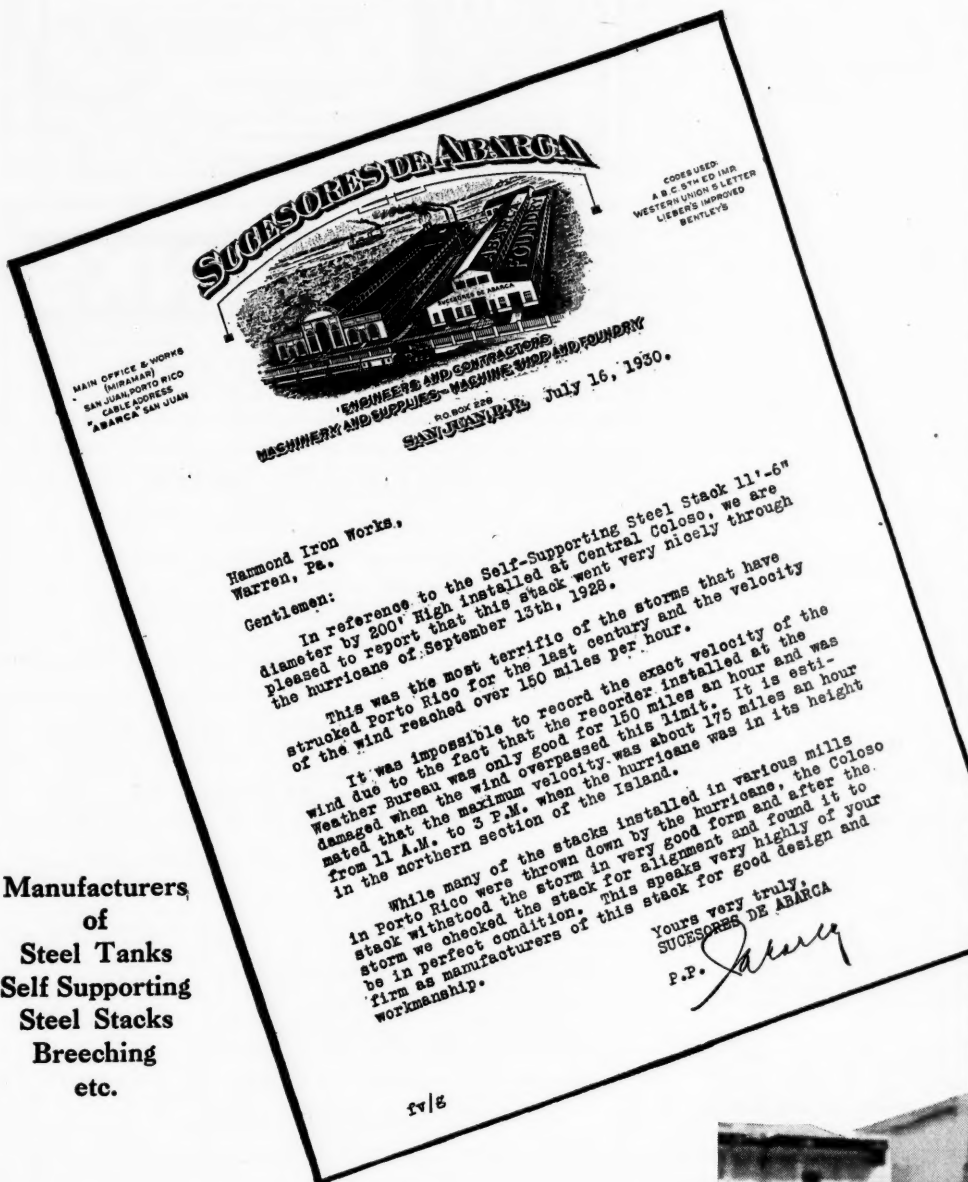
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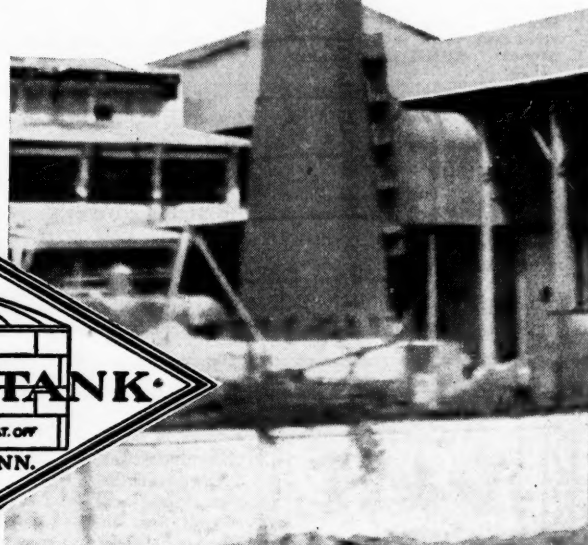
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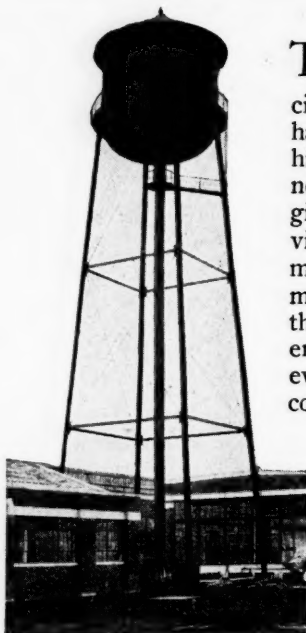
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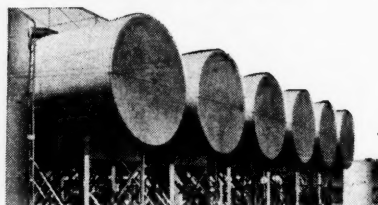
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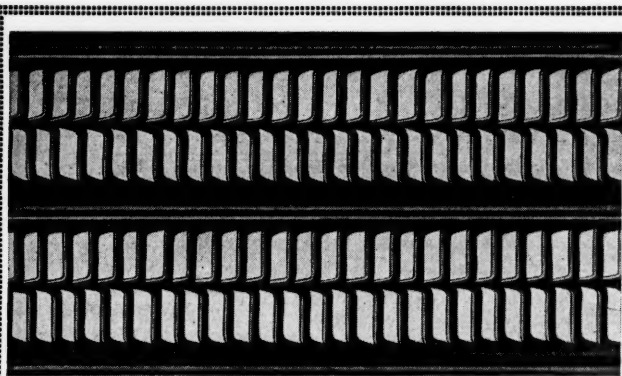
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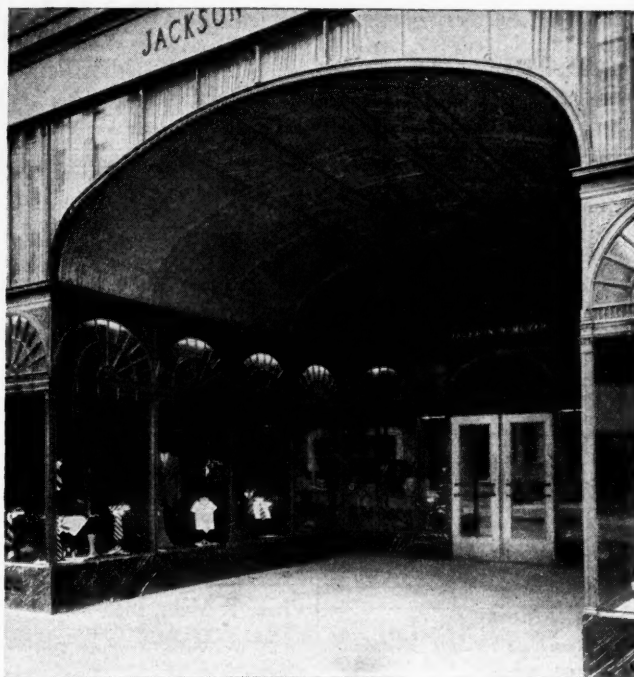
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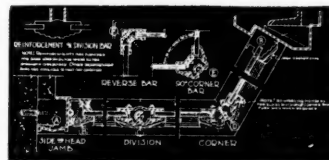
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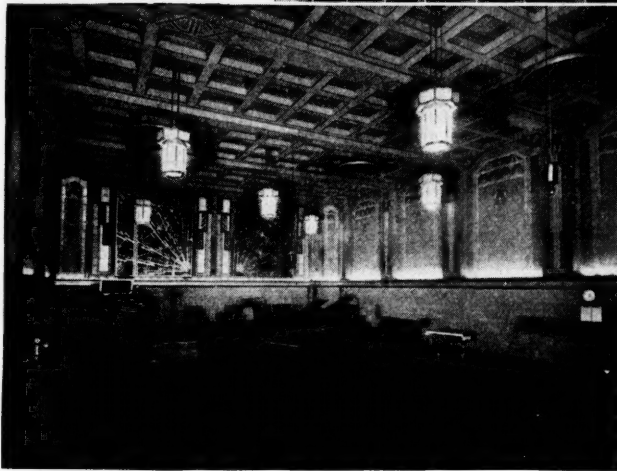
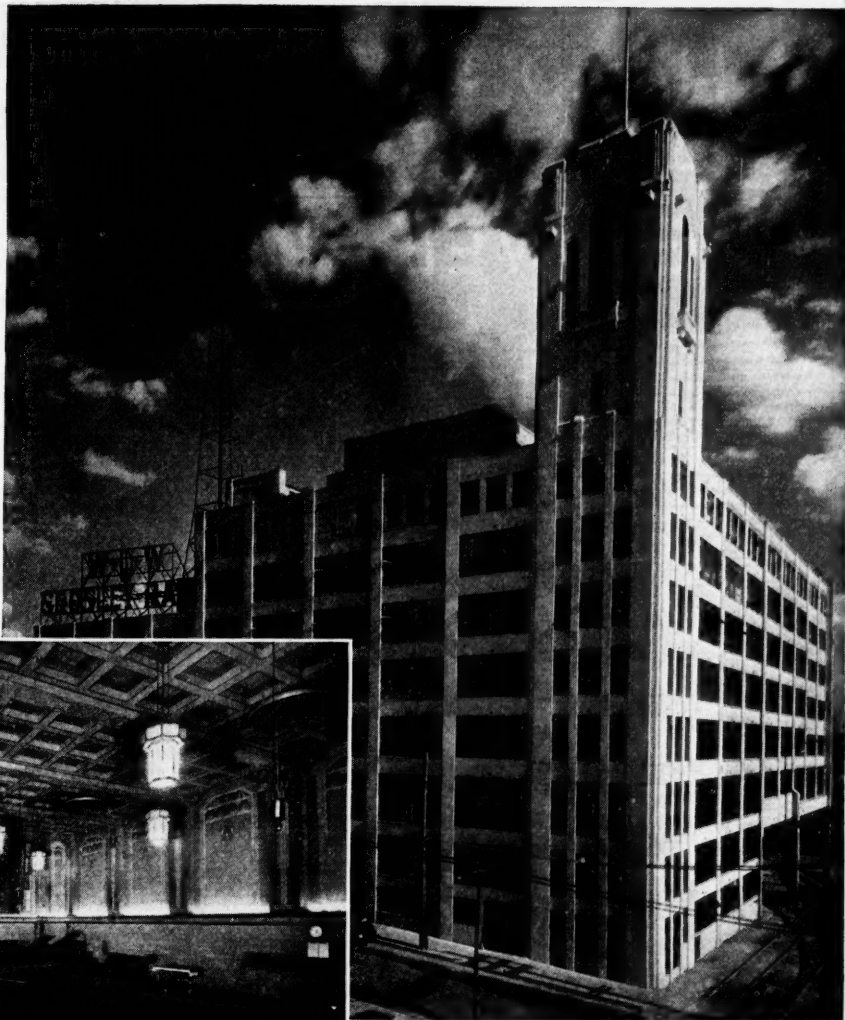
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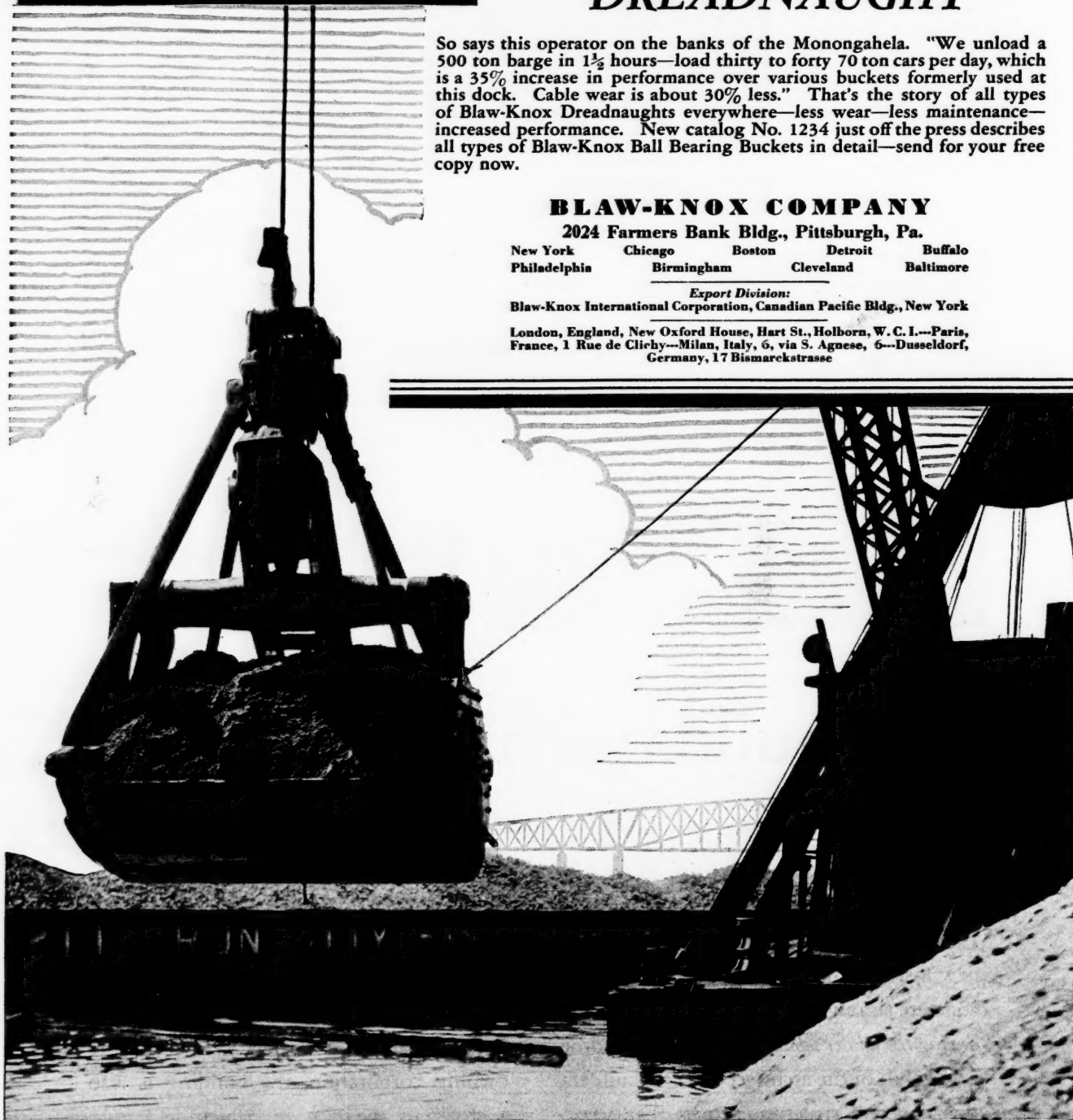
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Baltimore, Md., January 29, 1931

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MAIN OFFICE
Manufacturers Record Building,
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Baltimore, Md.

Published Every Thursday
by the
MANUFACTURERS RECORD
PUBLISHING CO.
FRANK GOULD, President

BRANCH OFFICES
Chicago—11 S. LaSalle St.
New York—901 Singer Bldg.

Subscription Rates: \$8.50 a year (in advance); six months, \$3.50; three months, \$2.00 to United States, Mexico, Cuba, Porto Rico, Hawaii and the Philippines. For Canada add postage \$1.00 a year. For other foreign countries add postage \$3.50 a year. Single copies, 20c.; back numbers, one to six months, 50c. each; over six months, \$1.00.

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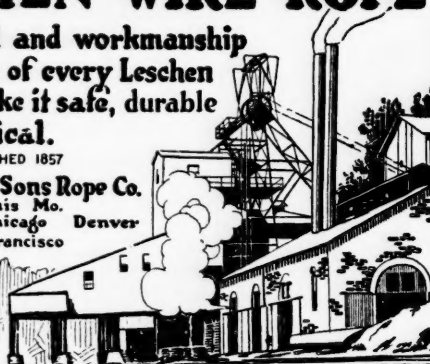
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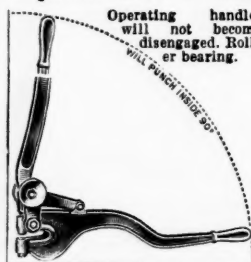
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Vol. XCIX No. 5 }
Weekly }

BALTIMORE, JANUARY 29, 1931

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Practical Steps for Tax Reduction

AN article, "Taxpayers' Billions," in this issue of the MANUFACTURERS RECORD is not presented as the background in a tax picture of great gloom, but as a foundation on which may be erected possibly a new taxation structure for state, county, city and other lesser governmental agencies. The article is not a new voice in the nation-wide chorus of protest against heavy taxes, but is designed for constructive information.

The basic facts are: Ten billion dollars a year, or 12½ per cent of the annual income of the American people, is taken from them in taxes; of this \$3,000,000,000 goes to the Federal Government, \$2,000,000,000 to state governments, \$3,000,000,000 to 250 cities of 30,000 or more population, and certainly \$2,000,000,000 to the other cities, the 3000 counties and other governmental tax gatherers and spenders.

It is conceivably possible that this huge annual levy is necessary and fair and proper. It is highly probable that such is not the case. The truth should be determined by honest, businesslike, non-political investigation in every governmental unit from the greatest to the smallest. Such investigations are completed or under way in more than one Southern state.

In the meantime, majority opinion is overwhelming that this aggregate is excessive. There is real substance for sober thought in the statement of a Southern man that he has to pay, among other imposts, "a merchant tax, capital stock tax, property tax, state auto tax, city auto tax, gas tax, water tax, amusement tax, cigar tax, cigarette tax, real estate tax, school tax, surtax." No doubt he could go further without exaggeration.

Beyond these direct taxes the taxpayer shoulders a substantial part of the taxes imposed on industries of every kind. Railroad taxes in 1930 ran to \$356,000,000, or 6.6 cents in every dollar of revenue received by the steam lines. The Cotton Manufacturers Association of South Carolina shows that in one county the taxes paid by a group of textile mills increased from \$19,754 in 1915 to \$91,867 in 1929. These two items are picked at random. The number can be multiplied many times. All such direct taxes on industry in every line are indirect, additional

taxes imposed on the individual citizen, the ultimate consumer.

Statistics are not needed to prove that for a decade taxes have increased more rapidly than national wealth or income; that taxes on all kinds of industries and on individual taxpayers have in many instances doubled or trebled in recent years, or that the farmers' tax burden now is more than twice as heavy as 15 years ago.

The seriousness of the situation is definite and real. Tennessee is studying a report presented by a commission of business men. A tax research committee of business men has submitted a report to the Missouri legislature. Governor Gardner of North Carolina would cut \$4,300,000 from the budget for that state. "The paramount issue in the minds of all our citizens is relief from the burden of taxation on the farmer, the home owner, the merchant, and incidentally, therefore, the cost of living," said Governor Murray of Oklahoma in his message.

The problem of tax readjustment has been accepted as a paramount responsibility in virtually every Southern state and many other states throughout the country.

A fundamental prerequisite to taxation readjustment is revaluation or reassessment of all property, in fair, equitable and non-political fashion. Often, it is charged in many areas and communities, valuation like kissing "goes by favor." For a state executive to "reduce the tax rate" for political effect and to increase assessments, thereby increasing the taxpayer's bill, is an old, old trick. Chicanery has been a factor in valuation and assessment for many years. Such inequities must be wiped out. It may prove that scaling down over-high assessments and increasing the under-valued will about balance in the end, but each taxpayer will be carrying his fair share of the load.

Forty per cent of the public tax money is wasted in the administration of public affairs, W. S. Johnson, treasurer of West Virginia, told the Association of State Auditors, Treasurers and Comptrollers, at a recent session. Duplication or sometimes greater multiplication of governmental agencies is an outstanding factor in the situation.

Prominent among the opportunities for curtailment

or prevention of waste is reduction in the number of counties through businesslike, non-political and non-factional consolidation or merger. The land area of the Southern states is 945,000 square miles, or 31.8 per cent of the 2,973,000 of the entire country. The voting population of the South is approximately 7,500,000, or 20.7 per cent of about 36,300,000 in the United States. The number of counties in the Southern states is 1503, or 48.9 per cent of 3072 in all the 48 states.

In detail these figures, including the total population as of the census of 1930, for the South are:

States	Land Area		Population	
	Number of Counties	(Square Miles)	Voters (1928)	1930 Census
Alabama	67	51,279	248,500	2,646,248
Arkansas	75	52,525	196,800	1,854,482
Florida	67	54,861	245,800	1,468,211
Georgia	161	58,725	193,000	2,908,506
Kentucky	120	40,181	939,000	2,614,589
Louisiana	64	45,409	215,700	2,101,593
Maryland	24*	9,941	525,000	1,631,526
Mississippi	82	46,362	151,600	2,009,821
Missouri	116†	68,727	1,496,500	3,629,367
North Carolina ..	100	48,740	636,000	3,170,276
Oklahoma	77	69,414	613,000	2,396,040
South Carolina ..	46	30,495	68,400	1,737,395
Tennessee	95	41,687	362,600	2,616,556
Texas	254	262,398	729,800	5,824,715
Virginia	100‡	40,262	304,700	2,421,851
West Virginia	55	24,022	640,000	1,729,205
Total	1,503	945,028	7,566,400	40,760,381
United States	3,072	2,973,774	36,300,000	122,775,046

*Includes Baltimore City as a county in itself.

†Includes St. Louis and Kansas City as counties.

‡Plus 23 separate cities, on a county basis.

In scores of cases, geographical and transportation conditions which occasioned the construction of many counties have disappeared. The railroad has largely displaced the horse or horse-drawn vehicle as a means of travel. The automobile has appeared, and fine roads have been provided. The telegraph, the telephone and the radio make possible ready communication. The factor of distance has been minimized. The necessity for so many counties has passed.

As the Jackson (Miss.) Daily News says, "the cost of county government is high," and it adds:

"Every county has its supervisors, its sheriff, circuit clerk, county clerk, chancery clerk, assessors and a host of other county officers. Each of these officers draws a salary from the public till. Each county board assesses taxes and expends the public money, often without due consideration of the needs or opportunities of adjoining counties. As a result we have endless waste—waste in salaries; waste in expenditures; waste in investments; waste in everything."

This condition is not unique to Mississippi, but is characteristic of most of the 48 states.

"Public sentiment for the consolidation of too numerous counties, in the interest of economy and good service, appears to be growing in the country at large as well as in Georgia," says the Atlanta Journal.

The legislatures of many Southern states are now in session. A great opportunity for easing the oppressive tax burden by reducing the number of counties is ready to their hand and awaits their action.

Communism Unmasked

THE report of a special committee created by the House of Representatives to investigate the activities and propaganda of the communists in the United States has been made public. It corroborates every statement the MANUFACTURERS RECORD has made in its effort to arouse the people of the United States to the insidious movement to undermine our government and institutions. The report contains alarming testimony of avowed communists and other information that defines communism as a worldwide political organization advocating:

1. Hatred of God and all forms of religion;
2. Destruction of private property and inheritance;
3. Absolute social and racial equality; promotion of class hatred;
4. Revolutionary propaganda through the Communist International, stirring up communistic activities in foreign countries, in order to cause strikes, riots, sabotage, bloodshed, and civil war;
5. Destruction of all forms of representative or democratic governments, including civil liberties, such as freedom of speech, of the press, of assembly, and trials by jury;
6. The ultimate and final objective is world revolution and the dictatorship of the so-called proletariat into one union of soviet socialist republics with the world capital at Moscow.

Communism also has been defined as an organized effort to overthrow organized governments which operate contrary to the communist plan now in effect in Russia. It aims at the socialization of government, private property, industry, labor, the home, education and religion. Its objectives are: The abolition of other governments; of private ownership of property; of inheritance; of religion and family relations.

The voluminous report covers every phase of communistic activity in the United States. Most illuminating are the following excerpts from the testimony of confessed communists in the United States before the Congressional Committee:

Louis Bebrits, an alien Roumanian, editor-in-chief of a revolutionary communist daily printed in Hungarian in the city of New York, testified:

"I am always fighting against capitalism and seeking to overthrow capitalism and to get a Soviet government. I cannot imagine a revolution without the same methods as the Russian workers and farmers used."

Moissaye J. Olgin, editor of a communist daily paper in New York, published in Yiddish, made a typical communist statement to the committee in the following testimony:

"Mr. Olgin. I agree perfectly with what Marx said about religion; that religion is the opium for the people.

"The Chairman. Do you believe in the abolition of all religion?

"Mr. Olgin. I believe in enlightening all the people so they may stop believing what don't exist. * * *

"Mr. Bachmann. Since 1922 you owe no allegiance to the American flag?

"Mr. Olgin. Since 1922 I am a communist and that is a revolutionist.

"Mr. Bachmann. You are fighting to displace the American flag; is that not true?

"Mr. Olgin. I am fighting under the red flag to displace American capitalism by a government of workers and farmers."

Further testimony of Mr. Bebrits before the com-

mittee is particularly interesting in this connection:

"Mr. Eslick. If your idea of the new state would come into being at once, a change from our form of government to the Soviet form of government, would you pay the landowner and the merchant and the other property owner anything for his holdings?"

"Mr. Bebrits. The landowner, the property owner will not get anything. I hold it that property owning in my opinion is the result of robbing generations of the people.

"Mr. Eslick. You would take away lands, merchandise, banking?"

"Mr. Bebrits. Yes.

"Mr. Eslick. You would make no compensation whatever to the owners?"

"Mr. Bebrits. No.

"Mr. Eslick. But suppose the capitalist class and individual corporation refused to give it up, then how would you take it away from them except by force?"

"Mr. Bebrits. All revolutions are working with force.

"Mr. Eslick. And you would go to the extent of killing him in order to take his property, would you not, if it became necessary?"

"Mr. Bebrits. I guess he will be wiser than to say he will stand and get killed."

After reading such testimony it does not seem possible that any loyal citizen of the United States can make light of the communist activity in this country. The dangerous doctrines which are being openly advocated, as revealed in this official report of a Congressional Committee, should awaken those who have not been informed as to the real situation.

How long are we to ignore the activity of the enemies within our gates?

Future Timber Supply

THE Southern states have been supplying nearly half the nation's lumber. The South has more than half the forest area of the whole country. C. A. Whittle of the Georgia Forest Service cites the fact that the recent annual report of the "Forester" of the United States Department of Agriculture credits 13 Southern states with an aggregate of 222,274,000 acres in forests, whereas the entire country's timber land covers 416,651,000 acres.

Mr. Whittle points out that Georgia has more forests and more potential forest area than any other state in the union, followed closely by Florida, Alabama and Arkansas. Only Minnesota outside of the South reaches the 20,000,000-acre class, while the South has six such states, and we are further reminded that the South's position in timber production is not to be measured by acreage alone, for trees in the South are mainly of the more rapid-growing species. Together with the longer growing season and abundant rainfall, this makes the possible acre yield of wood products in the South much greater than in the timber regions of the North and West, where slow-growing species predominate and climatic conditions are not so favorable. With greater forest acreage, desirable rapid-growing species of trees and a climate conducive to maximum tree growth, it is evident that the South has an opportunity and obliga-

tion to take care of the greater part of the country's needs for timber in the future.

A Southern forester who recently visited the West and observed the cutting of virgin forests of that area said it was not the fact that within a few years the Western forests would be cut out that impressed him most, but the length of time it would take the West to grow another crop of saw logs. The trees being cut average considerably over 100 years in age, and nearly another 100 years will have to pass before another crop of saw logs of commercial size can be grown.

Not so in the South. Pines of the South will be making at least three times as much growth as Western and Northern conifers. Southern hardwoods also grow faster than similar species in the more Northern regions.

Reports on the agriculture of the South indicate a steady trend toward greater rather than less forestry acreage as the result of abandoned farm lands being turned into forest lands by natural reforestation. This trend is attributable to invasion of the cotton boll weevil; to the economic pressure of more extended and cheaper cotton production on the former ranch lands of the Southwest, and to a demand from industries that drew farm hands to cities and to a considerable degree to states far removed from the cotton belt.

Forests have risen to solve the agricultural problem of the South while economists have been debating the matter. One can find in the annual increment of an acre of well-stocked Southern pine, values greater than farmers netted on the same lands, and more than they could make from cotton on neglected, run-down land.

Several Southern states are beginning rightly to appreciate the value of reforestation. The Columbus Enquirer-Sun, in urging Georgia landowners to join in the campaign to plant pines as sponsored by the Georgia Forest Service, says that several thousand acres are to be planted in pines in the state this winter and in the spring. Seedlings are supplied at cost, \$2.50 to \$3.00 per thousand, and reforestation is rapidly making headway among progressive farmers in Georgia and Alabama.

Some of the great lumber companies of the South, notably in Louisiana, began several years ago systematically to reforest their cut-over acreage. The Baton-Rouge Star-Times, referring to an address made by Dr. Charles H. Herty following the conference of the American Institute of Chemical Engineers at New Orleans, when Dr. Herty and a number of these chemists visited Baton Rouge, said:

"It is notable that Dr. Herty and others of the visiting scientists have emphasized especially the possibilities of Louisiana's timber supply, declaring that there exists here everything with which to produce white paper, newsprint and similar papers. At the same time, there is impressed the importance of perpetuating the timber reserves. To Dr. Herty is accredited the statement that Louisiana alone can produce 5,000,000,000 feet of lumber yearly and perpetually. Farmers, he insists, should raise not merely cattle and corn and the usual farm products, but pine as well, planting and cutting every year, in the winter before the season of seeding."

Taxpayers' Billions

MORE than \$10,000,000,000 a year is collected from American taxpayers by federal, state and lesser government establishments. Each tick of the clock, day and night, throughout the year, costs the American taxpayers \$317, for expenditures through various governmental channels.

Eighty per cent of this \$10,000,000,000 a year is collected by (a) the Federal Government, (b) state governments, and (c) 250 of the cities in the land. Twenty per cent is in moneys paid to counties, cities, townships, school districts, road districts, levee districts and a score of other governmental agencies which collect and spend the taxpayers' money.

The Federal revenue from income tax and miscellaneous internal revenue was **\$3,038,295,000** for the fiscal year ended June 30, 1930, and there was \$587,000,000 in customs receipts and other income which brought the total to \$4,177,941,000.

Revenue receipts by the 48 state governments—not including proceeds of bond issues—are computed by the Census Bureau at approximately \$2,000,000,000 a year.

The revenue receipts for 250 cities, having a population of 30,000 each, and up, ran to \$3,000,000,000 in 1928. the latest figures announced by the Census Bureau.

To the aggregate of \$8,000,000,000 in these three items is to be added the revenues of other cities, of counties, townships and school and other districts of various kinds. The vast amount of detail and confusion and complexity involved in casting up these columns precludes accuracy in the computation, but \$2,000,000,000 may be accepted arbitrarily as a reasonable approximate.

By **GEORGE GARNER**

This annual tax bill of \$10,000,000,000 represents 12½ per cent on a national income of about \$80,000,000,000, as of 1928. It is 6.4 per cent on the assessed valuation of all property in the country subject to general property tax in the 48 states, amounting to \$155,400,000,000 in 1928, the latest available figures.

Federal Government ordinary expenditures for the fiscal year 1930 were \$3,440,268,000, says the Treasury Department. The budget for 1930 calls for \$3,976,000,000 and for 1931 asks at least \$3,800,000,000.

Expenditures by state governments ran to \$1,889,073,000 for 1928, the most recent figures of the Bureau of the Census.

This aggregate of \$5,300,000,000 expenditures by federal and state governments indicates that \$4,700,000,000 was expended through county, township and city governments and school, road and levee districts and similar governmental agencies of various kinds.

Some of the Southern cities' budgets are reported as follows: Asheville, N. C., \$2,449,900; Atlanta, \$9,800,000; Baltimore, \$59,679,000; Birmingham, \$7,683,000; Charleston, S. C., \$1,408,000; Houston, \$16,949,000; Jacksonville, \$4,648,000; Memphis, \$4,691,000; St. Louis, \$32,140,000; Wheeling, W. Va., \$1,572,000; Richmond, \$9,911,000; Oklahoma City, \$2,400,000; Louisville, \$10,054,000; New Orleans, \$10,848,000.

The budget for New York City approximates \$600,000,000; for Chicago, \$225,000,000; Detroit, \$150,000,000 and Philadelphia, \$85,000,000. The budget for New York State recently was announced

at \$293,600,000, or \$300,000,000 less than for New York City.

Governmental cost payments—operation, maintenance and interest—totaled \$1,304,650,000 for the 48 states in 1928, according to Census figures. For the 16 Southern States, the total was \$373,273,000, or 28.6 per cent of the whole.

These expenditures and the per capita for the Southern States were as follows:

STATE GOVERNMENT EXPENDITURES (Operation, maintenance and interest)		
States	Expenditures	Per Capita
Alabama	\$22,887,000	\$ 8.85
Arkansas	19,960,000	10.90
Florida	16,474,000	12.14
Georgia	16,712,000	5.76
Kentucky	19,463,000	7.60
Louisiana	20,403,000	9.96
Maryland	20,049,000	12.60
Mississippi	15,571,000	7.92
Missouri	27,466,000	7.67
North Carolina	27,095,000	8.94
Oklahoma	18,967,000	8.21
South Carolina	14,531,000	8.43
Tennessee	21,869,000	8.58
Texas	70,236,000	12.59
Virginia	24,866,000	10.39
West Virginia	16,724,000	10.01
Total	\$373,273,000	\$ 9.40
United States	\$1,304,650,000	\$10.98

Revenues flowed in to the state treasuries through nine major channels: General property taxes, special property taxes, inheritance taxes, income taxes, motor fuel taxes, motor vehicle licenses, earnings of general departments, earnings of public service enterprises and miscellaneous. For the 48 states, these composite revenues aggregated \$1,935,432,000, the Southern States' share being \$538,680,000, or 27.7 per cent of the total. More in detail, these sources contributed as follows:

General Property Taxes—All states, \$381,171,000; Southern States, \$104,640,000, or 27.3 per cent.

Special Property Taxes—All, \$105,636,000; South, \$8,851,000, or 7.6 per cent.

Inheritance Taxes—All, \$127,538,000; South, \$10,240,000; 8 per cent.

SOURCES OF STATE REVENUE CLASSIFIED

States	General Property Taxes	Special Property Taxes	Inheritance Taxes	Income Taxes	Motor Fuel Taxes	Motor Vehicle Licenses	Earnings of General Departments	Earnings of Public Service Enterprises	All Other Revenues
Alabama	\$7,570,000	\$1,370,000	.....	.....	\$3,200,000	\$2,780,000	\$3,930,000	\$554,000	\$10,180,000
Arkansas	4,600,000	476,000	\$234,000	.....	4,000,000	3,400,000	1,100,000	283,000	5,750,000
Florida	5,490,000	58,000	.....	.....	9,230,000	3,780,000	2,040,000	.....	6,000,000
Georgia	6,630,000	.....	603,000	.....	6,150,000	3,890,000	1,630,000	15,000	9,060,000
Kentucky	10,390,000	420,000	732,000	.....	6,059,000	4,620,000	2,400,000	.....	9,290,000
Louisiana	9,360,000	.....	690,000	.....	3,278,000	4,300,000	1,350,000	72,000	9,160,000
Maryland	6,220,000	646,000	853,000	.....	4,559,000	2,040,000	4,050,000	449,000	8,720,000
Mississippi	4,230,000	173,000	160,000	\$1,430,000	2,469,000	393,000	1,900,000	.....	6,680,000
Missouri	6,430,000	1,920,000	3,040,000	3,690,000	6,630,000	8,615,000	7,180,000	.....	7,480,000
North Carolina .....	.....	874,000	698,000	8,175,000	9,678,000	8,147,000	4,290,000	52,000	11,150,000
Oklahoma	3,670,000	472,000	332,000	1,089,000	5,449,000	2,375,000	2,550,000	.....	17,700,000
South Carolina	2,020,000	396,000	139,000	2,221,000	3,287,000	3,153,000	1,510,000	.....	6,900,000
Tennessee	3,700,000	47,000	444,000	.....	4,733,000	4,218,000	2,410,000	.....	14,850,000
Texas	25,440,000	1,999,000	1,030,000	.....	19,200,000	13,000,000	4,500,000	.....	27,950,000
Virginia	6,120,000	.....	689,000	3,817,000	5,560,000	5,340,000	4,650,000	.....	14,000,000
West Virginia	2,770,000	.....	616,000	.....	4,029,000	4,000,000	1,980,000	.....	9,200,000
Total	\$104,640,000	\$8,851,000	\$10,240,000	\$20,422,000	\$97,511,000	\$74,051,000	\$47,470,000	\$1,425,000	\$174,070,000
United States	\$381,171,000	\$105,636,000	\$127,538,000	\$55,847,000	241,917,000	\$264,878,000	\$143,920,000	\$14,241,000	\$600,284,000

Income Taxes—All, \$55,847,000; South, \$20,422,000; 36.3 per cent.

Motor Fuel Taxes—All, \$241,917,000; South, \$97,511,000; 40.3 per cent.

Motor Vehicle Licenses—All, \$264,878,000; South, \$74,051,000; 27.7 per cent.

Earnings of General Departments—All, \$143,920,000; South, \$47,470,000; 32.8 per cent.

Earnings of Public Service Enterprises—All, \$14,241,000; South, \$1,425,000; 7.1 per cent.

All Other Revenues—All, \$600,284,000; South, \$174,070,000; 29 per cent.

No income taxes are attributed in the report to Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Tennessee, Texas and West Virginia.

TOTAL STATE REVENUES

States	Amount
Alabama	\$29,584,000
Arkansas	19,843,000
Florida	26,598,000
Georgia	27,978,000
Kentucky	33,911,000
Louisiana	28,210,000
Maryland	27,537,000
Mississippi	17,435,000
Missouri	44,985,000
North Carolina	43,064,000
Oklahoma	33,637,000
South Carolina	19,626,000
Tennessee	30,402,000
Texas	93,119,000
Virginia	40,156,000
West Virginia	22,595,000
Total	\$538,680,000
United States	\$1,935,432,000

No earnings from State public service enterprises are entered for Florida, Kentucky, Mississippi, Missouri, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia.

Alabama and Florida do not have an income tax.

Georgia, Louisiana, Virginia and West Virginia do not appear in the list for special taxes.

The assessed valuation of property subject to general taxation amounts to \$155,464,600,000 for the 48 states, of which \$31,901,800,000, or 20 per cent, is in the Southern States, as follows:

ASSESSED VALUATION (Subject to general taxation)

States	
Alabama	\$1,200,000,000
Arkansas	613,500,000
Florida	727,800,000
Georgia	1,300,000,000
Kentucky	3,000,000,000
Louisiana	1,700,000,000
Maryland	2,500,000,000
Mississippi	775,000,000
Missouri	4,900,000,000
North Carolina*	2,960,000,000
Oklahoma	1,730,000,000
South Carolina	425,500,000
Tennessee	1,800,000,000
Texas	3,985,000,000
Virginia†	2,190,000,000
West Virginia	2,095,000,000
Total	\$31,901,800,000
United States	\$155,464,600,000

*North Carolina has no general property tax.

†The total for Virginia includes valuations of property not taxed for state purposes.

These are facts and figures which confront the Congress and the state legislatures now in session, or scheduled to meet this year.

\$6,000,000 Potomac Electric Program in Washington

THE Potomac Electric Power Co., Washington, D. C., has a building and construction program under way involving expenditure of approximately \$6,000,000. Installation of a 30,000-kilowatt generating unit with boilers and necessary equipment will be completed at the present 178,000-kilowatt Bennings power plant about July 1, next. Engineering and construction work on this unit is being carried out by the Stone & Webster Engineering Corp., Boston, Mass.

A 9-story office building of Indiana limestone, at 10th and E streets, N. W., and including appliance show rooms, is being erected by the George Hyman Construction Co., general contractors; it will be ready for occupancy in the near future. Plans were drawn by Waddy B. Wood, architect.

A 6-story service and operating building of brick and limestone trim, at 10th and Florida Avenue, N. W., to house operating, maintenance and allied departments, was completed recently by Sam-

uel J. Prescott Co., Inc., general contractors, from plans by Arthur B. Heaton, architect.

Two sub-stations were erected during 1930. The Sinclair station, at Eye street between Ninth and 10th, N. W., erected by Charles T. Tompkins Co., is now in operation. The Champlain street station was erected by Skinner & Garrett. Plans for both were drawn by Arthur B. Heaton.

The firm recently placed an order for cable requirements for 1931 amounting to \$320,000.

The Washington Railway and Electric Co., controlling the Potomac Electric Power Co. is erecting a brick and steel garage building on Georgia avenue, N. W., costing approximately \$500,000, to accommodate its large bus fleet. Construction is by Skinner & Garrett, from plans by Arthur B. Heaton, and the structure is to be completed in February. This expenditure is independent of and in addition to expenditures of the Potomac Electric Power Co.

New
Office
Building
in
Washington
for
Potomac
Electric
Company



Mill Adds 250 Employees

Spindale, N. C.—A large order for rayon goods booked by the Stonecutter Mills Co. will necessitate the plant operating on full time with an additional force of 250 operatives. The Stonecutter mills are among the largest in Ruther-

ford County and have been operating on about one-third time for several months. They produce fancy gingham, fancy rayon filled dress goods and novelties. K. S. Tanner is the president and treasurer. Practically all mills of Spindale and Rutherfordton are now operating on full time and the business outlook is much brighter.

Cotton Economists Resent Government Interference

By THOMAS EWING DABNEY, New Orleans.

"GOVERNMENT interference in business" well summarizes the thought of the economics committee of the American Cotton Shippers Association in answering the question: Why has the consumption of American cotton dropped 2,000,000 bales during the past year, and why has the consumption of foreign-produced cotton increased nearly 1,500,000 bales? At a recent executive meeting in New Orleans the economists went into the situation fully. In discussions by D. E. McCuen of Greenville, S. C., president of the association; J. W. Garrow of Houston, chairman of the committee; R. C. Dickerson of Memphis, secretary, and Walter Parker of New Orleans, economic counsel, the Farm Board was not attacked directly. They did, however, attack the Federal Agricultural Marketing law, of which the Farm Board is the executive agency, and declared that this act is harmful to business interests in general, and to the producers of cotton and other farm crops in particular.

"We are going to insist on a searching congressional investigation," said the economists. Summarized, their reasons are:

"Congress has given the Farm Board \$400,000,000 and more is asked. This money is being used to do things never before done in the United States, the effect of which is to inject new influences, new factors and new business conditions into the normal functions of government.

"Before the Federal Government injected itself into the field of business and became a large-scale cotton factor, the cotton merchant, cotton warehouseman and cotton exporter, all competitors, bought cotton from the farmers as it was offered for sale; paid cash, sold a future hedge against such purchases, borrowed from the bank on this hedged cotton, in order to buy more cotton, and then sought spinner buyers.

"Every crop, the largest as well as the smallest, was absorbed and carried between the period of production and consumption, and finally disposed of to consumers. Spinners bought cotton to meet long requirements ahead. This in the orderly course of business.

"The Federal marketing experiment has brought some new and artificial factors into the market. In consequence, merchants have largely retired from their normal function, while spinners have turned to a system of hand-to-mouth buying. Thus, an enormous po-

tential buying power has been taken out of the market.

"Last year, the Government spent millions of dollars to corner the May position, and merchants who had purchased cotton in the expectation of selling it to spinners could not transfer their hedges. This caused serious losses to the merchants. They do not dare risk a similar experience. That is why merchants are keeping out of the market now, and that is why their tremendous buying power is not put behind the carrying of the cotton crop. Many spinners bought cotton at 16 cents, the price around which they were told the Government would stabilize cotton. The stabilization did not work; the spinners were caught with this cotton and, fearing to be caught again, they are buying only for their immediate needs. The Government today stands pretty much alone as a buyer, a situation that is lacking in economic soundness."

During the three years preceding 1930, the consumption of American cotton amounted to about 15,000,000 bales a year, but in 1930 it dropped to 13,000,000, according to the report of the board of directors of the Rotterdam Cotton Association. Total consumption of all kinds of cotton, in 1930, was 25,209,000 bales, as compared with 25,882,000 the year before. Thus, there has been a very small drop in the world consumption of cotton, but a 2,000,000 bale drop in the consumption of American cotton.

"The attempt to hold American cotton at above world parity has reduced exports," the economists continued. "It has caused Europe to substitute Russian and Egyptian for American cotton wherever possible. It has made mere sideline observers out of many merchants who, in all previous years, whether trade was good or bad, have bought for cash all the cotton the producers offered them, and carried it in an orderly manner until required by consumers. The Government is holding a great deal of cotton, and no one knows when it will let this cotton go. Were the merchants now free of the fear of this situation, they would buy cotton, sell hedges in the normal course of business, and then seek consumers' outlets, just as they have done in all previous seasons."

The discussion went on to say that, if American cotton producers are to continue supplying cotton to foreign mills in competition with producers in other lands, there must be a radical change in

American farm economy. Production costs must be lowered, better seed must be used and the less productive lands must be eliminated. If American cotton producers are to withdraw from world markets, then there must be a 50 per cent reduction in production.

\$6,000,000 ELECTRIC RAILWAY

87-Mile Line Would Link Houston and Port Arthur

Houston, Tex.—Plans have been announced here for an 87-mile electric interurban railway to link Houston and Port Arthur via Highlands, the Tri-Cities and Winnie, to cost approximately \$6,000,000. The project has been undertaken by the Tidewater Interurban Railway Co., recently incorporated, and is expected to be in operation before the end of the current year. Rights-of-way have practically been secured, it is said, and grading is under way on the Tri-Cities end of the line. Officers of the company include: Harry K. Johnson, Jr., president; L. E. Blankenbecker, vice-president; W. T. Bullard, secretary-treasurer, all of Houston. The board of directors is composed of the officers and W. D. Grant, New Orleans, La.; D. E. Duplantis, Goose Creek, Tex.; M. F. Smith and E. E. Lunn, both of Houston.

Progress on \$30,000,000 Power Project

Bagnell, Mo.—Excavation is practically complete and about 93 per cent of all concrete has been poured in connection with the construction of the \$30,000,000 hydro-electric development on the Osage River near Bagnell, for the Union Electric Light & Power Co., St. Louis. Clearing and pole setting for the transmission line from Bagnell to St. Louis is about 80 per cent complete, while clearing has been completed and foundations for steel towers have been started from Bagnell to Rivermines. Engineering and construction are in the hands of the Stone and Webster Engineering Corp., Boston, Mass., who awarded contracts as follows during December: To Stupp Bros. Bridge & Iron Co., St. Louis, for generator covers; Graybar Electric Co., St. Louis, and John A. Roebling's Sons, Trenton, N. J., steel cable; McClintic-Marshall Co., Pittsburgh, Pa., steel towers; Chicago Pneumatic Tool Co., New York, air compressors; Lapp Insulator Co., Le Roy, N. Y., insulators, and the Hoosier Engineering Co., Chicago, Ill., erection of steel towers.

A Cornerstone of Alabama's Development

Threefold Function of College Education As
Exemplified by the Alabama Polytechnic Institute

By BRADFORD KNAPP

President, Alabama Polytechnic Institute,
Auburn, Ala.



Dr. Bradford Knapp

THE day is past when education was confined to those in school or when the progress of the people could be measured by the old standards. States were formed for the purpose of enabling the people to do collectively those things which it is impossible to do in small groups—namely, to protect the lives of the people, to safeguard their property rights, to promote their health and general welfare, to develop their natural ability through education, to ex-

pand their collective knowledge through research, to regulate their individual and group relationships and to build moral worth through all these. Substantially these words were used in the introduction of a recent publication on the agriculture of Alabama.

Prior to the recent developments of industries in Alabama, this state shipped its raw materials out and exchanged the money so received for those things which it could not produce within its own borders. Today, Alabama is engaged in that great and fascinating enterprise of developing industry along

with agriculture, and by this process expects ultimately to ship a large proportion of its products in the finished form, rather than in the raw state. Coal, iron, timber and hydro-electric power have brought industry to Alabama and today it boasts of the twin resources of the state, agriculture and manufacturing.

No institution of the state occupies a more important relation to this development than does the Alabama Polytechnic Institute, which is the "land-grant" or Agricultural and Mechanical College of Alabama. It has three great functions: (a) Resident teaching, (b) research, or the extension of knowledge, and (c) extension, or the carrying of knowledge to the people at their homes, in their daily work and in the industries. In what follows will appear incidents and



A Beautiful Setting for the Ross Chemical Laboratory

details of only a part of the whole program of the relation of the state and the institution.

Textiles

The development of hydro-electric power in Alabama has raised it to fourth among the Southern States in cotton manufacture, with more than 1,778,000 spindles, over 26,000 active looms, and about 115 establishments manufacturing cotton and other textile materials valued at more than \$100,000,000 a year.

In 1929, the Alabama Polytechnic Institute established the School of Textile Engineering and has just finished the construction of a new and up-to-date textile engineering building, equipped with modern textile machinery and up-to-date scientific testing equipment for the study of cotton. We now have 55 students registered in textile engineering, textile design, textile chemistry and textile administration, the four major



Textile Engineering Building

years, there has been a change from less than a quarter of their cotton seven-eighths of an inch and longer to approximately one-third. A great program is on in Alabama, with a well-organized tie-up, headed by the Alabama Polytechnic Institute, for the improvement

high producing varieties having a good length of staple and a number of such varieties have been determined already. Five branch experiment stations have added to the resources of the institution within the past three years; at each of these stations, varieties will be tested so that their suitability for soil types and climatic conditions may be determined. There are 11 district agricultural school farms in the state under supervision of the Extension Service of the Alabama Polytechnic Institute. These, with the branch stations, will be used as points for distribution and multiplication of such seed. Arrangements are being made with farmers for further multiplication. Ginning days have been established, so that pure seed may be kept separate and safeguarded. It is estimated that nearly 100,000 bushels of fairly well selected seed of known varieties will be available for the crop of 1931.

Through fine cooperation by the cotton mills of the state, a survey has been made of the needs of the mills as to type and character of cotton and the source of their supply ascertained. Approximately one-third of the cotton used in Alabama mills today is purchased



Senior Students in Electrical Engineering

lines carried in the school. Plans call for teaching of commercial ginning and the training of ginners in gin operation, so as to produce as good a turnout and as excellently handled cotton as is possible with modern scientific information and training. When these things are done, the Alabama Polytechnic Institute will have a cotton school extending all the way from the study of varieties and fertilizers in the Agricultural Experiment Station to the yarn and cloth, dyeing, bleaching, etc., in the Textile Engineering School and the economies of the whole cotton industry.

Better Cotton

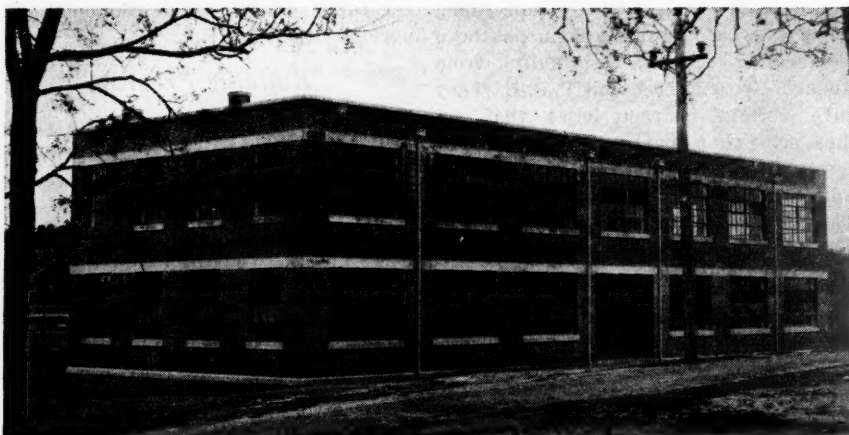
A study of cotton production in Alabama since the advent of the boll weevil leads to the inevitable conclusion that the length of staple has deteriorated considerably. From 1925-26 to 1929-30, 17¼ per cent of the cotton produced in America was less than seven-eighths inch staple. In India, in the last 15

years, there has been a change from less than a quarter of their cotton seven-eighths of an inch and longer to approximately one-third. A great program is on in Alabama, with a well-organized tie-up, headed by the Alabama Polytechnic Institute, for the improvement

The Experiment Station is carrying on plant-breeding and research work with



Laboratory in Quantitative Analysis in Chemistry



Electrical Engineering Research Laboratory

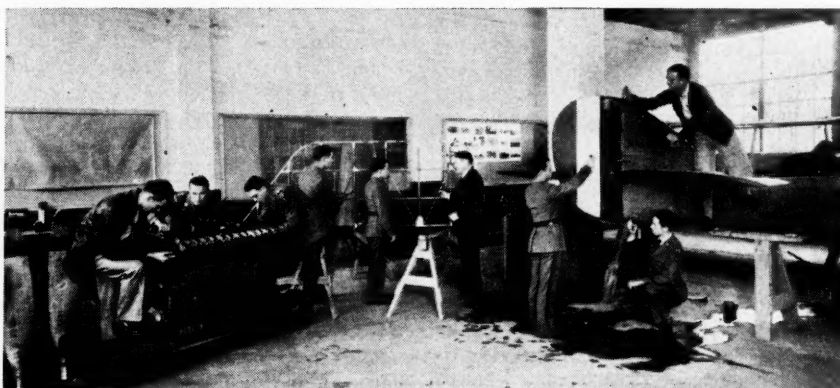
outs'ide the state. It is expected so to organize this work that a much larger proportion will be supplied by Alabama cotton. Alabama is not going to attempt to grow "long staple" cotton, but rather a "better staple" cotton.

Chemistry

Development of the chemical industry in Alabama is almost phenomenal. Theodore Swann, with a number of companies, has been developing the manufacture of phosphoric acid, ferromanganese, fertilizer, washing powder and a number of other products. Other companies are engaged in chemical manufacturing and development. The Alabama Polytechnic Institute has devoted a great deal of time to chemistry for many years. In 1929, a new chemical laboratory was built and equipped for both student work and research. The number of students in chemistry and chemical engineering increased in three years from 77 candidates for degrees to 151.

This institution assisted the Swann Corporation, the Federal Bureau of Standards and the University of Alabama in working out the manufacture of xylose from cottonseed hulls and

chemists are now at work on utilization of xylose. A member of the staff has recently perfected a method of manufacturing high-grade decolorizing carbon from the residue left after xylose is extracted from cottonseed hulls. This material is proving to be equal in lab-



At Work in Section of Aeronautical Engineering Laboratory

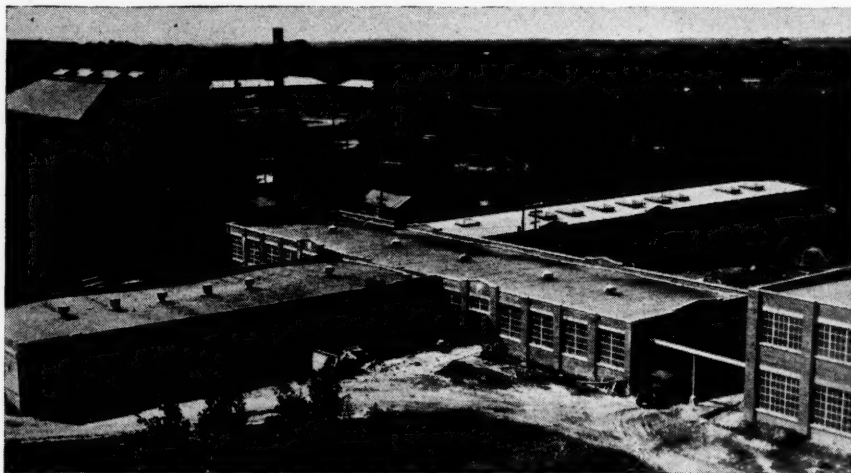
oratory tests to the best forms of commercial decolorizing carbon. Experiments in the manufacture of starch from sweet potatoes are to be continued on through the utilization of such starch

in the various processes in which starch is used in the textile industry and the development of the various by-products incident to the manufacture of the starch.

On the agricultural side, the nutrition laboratory is studying the food and feed values of Alabama products and the vitamin content of these products. The work of this division has been widely recognized, especially the work Dr. Salmon has done on the causes of pellagra and his work on Vitamin B.

Engineering Research

In this development of service for the state, there was established two years ago an engineering experiment station in which is coordinated the research work in the engineering branches of the institution. The work in chemical engineering described above is part of the work of the engineering experiment station. In the mechanical and electrical engineering departments, a very interesting line of work is being pursued



View of Part of the New Shops Quadrangle

relative to the causes of pitting of metals used in hydro-electric turbines, water pumps and other machinery associated with the electrical power industry. This work is nearing completion, and it is expected that its results will save many hundreds of thousands of dollars each year. Civil and highway engineering departments are working on stresses of materials and traffic problems.

Physics

Dr. Allison, head of the department of physics, has recently developed a "magneto-optic method of chemical analysis" which is leading to the discovery of some elements whose nature and properties have been under speculation by scientists for many years, but never accurately ascertained. This scientific discovery enables the worker to detect exceedingly small traces of any substance in a compound.

The State Experiment Station worked

out a very simple set of recommendations for the use of fertilizers on different soils and under different conditions, and farmers now call them "the Auburn method."

Vetch and Austrian Peas

Instead of saying, "Legumes should be planted to improve the soil," the Experiment Station and Extension Service in Alabama said: "Plant vetch and Austrian peas." The result has been the purchase of millions of pounds of vetch and Austrian pea seed through the Alabama Farm Bureau Association under a co-operative system, and the planting of approximately 100,000 acres of these winter legumes in Alabama.

Dairying

In 1930, the Polytechnic constructed on the campus an animal husbandry and dairy building, to meet a great increase in interest in the dairy and animal husbandry phases of agriculture. In it are a complete laboratory for the study of nutrition, and dairy manufacturing equipment of the most modern and up-to-date character. Short courses for the training of dairymen and dairy manufacturers are being held this winter for the first time, and at the branch experiment stations, as well as the main station, problems of the dairymen and animal husbandry are being worked out.

Engineering Education

Auburn is one of the largest engineering schools in the South and its graduates are to be found in all of the important engineering industries in the Southern states. In a recent issue of the Atlanta Journal, President C. Edwin Michael of the Virginia Bridge and Iron Company, said:

"A striking thing about our company

is the work being done by our young employes who have come from Southern polytechnic schools, especially from Auburn, Georgia Tech and V. P. I. They have certain characteristics that set them somewhat apart from the men who come from other sections and from schools which may be even more famous. Their salient characteristics as a class are their ingenuity, their initiative and their self-reliance."

In the telephone industry are 101 graduates of the Alabama Polytechnic Institute; in the hydro-electric power industry are more than 200. Nearly half of all students at the Alabama Polytechnic Institute are taking engineering. Eighty-six are taking highway and civil engineering, 325 electrical engineering, 55 textile engineering, 200 mechanical and aeronautical engineering, 104 architecture and architectural engineering, 151 chemistry and chemical engineering, making a total of 921. There are 238 in agriculture and agricultural education. The balance are divided between the School of Science and Literature, which includes economics and business administration; the School of Education for the training of teachers, the School of Home Economics, the School of Veterinary Medicine, the Department of Pharmacy and the Graduate School.

Economic Research

Alabama Polytechnic, about two years ago, organized a Council of Economic Research, to coordinate the work in agricultural economics, general economics and industrial or engineering economics. A monthly summary of agricultural, industrial and financial conditions is published, to bring together for the use of business men, farmers, bankers, merchants and manufacturers the important and up-to-date information

regarding the business, financial and agricultural situations.

Building Program

During the last three years, Alabama Polytechnic has constructed \$800,000 worth of new buildings. It has acquired the ownership of 3500 acres of farm land at various points for experimental purposes and has constructed \$25,000 worth of buildings on each station.

Extent of Educational Services

The student enrollment at Auburn has increased from 1614 in 1927-28 to 1814 in the first semester of 1930-31. To this may be added the summer school enrollment of 1190. Twelve hundred students are reached in extension teaching; 1447 attend farmers' and farm women's short courses at Auburn; 45 veterinarians attend a short course; 115 are in the metermen's short course; 28,620 4-H club members are enrolled and reached through the Extension Service in the 67 counties of the state; 9535 farm women organized in clubs are daily served with information, and approximately 30,000 organized farmers in the Farm Bureau and its various marketing subsidiaries receive regular instruction through extension agents. The total number of persons reached by the institution annually by its staff through resident teaching, experiment station work and extension work makes it one of the largest service organizations in the state.

Radio Education

Last, but not least, in cooperation with the University of Alabama and Alabama College for Women, the Alabama Polytechnic Institute operates broadcasting station WAPI, located at Birmingham, with remote control stations at



Animal Husbandry and Dairy Building

Montgomery, Auburn, Montevallo and Tuscaloosa. This reaches daily a large proportion of the radio audience of Alabama and neighboring states, with important educational and entertainment programs, helpful to the farmers, the business man, the housewife and the whole family.

Thus is Alabama, largely through the Polytechnic Institute, readjusting its economic life. New skill and new vision are being developed among its people. New knowledge is coming to its business men, and a new sense of responsibility regarding the financing of both industry and agriculture. With all of these, the "Cornerstone" is in the Alabama Polytechnic Institute, with its threefold function of college education, expanding our field of knowledge in agriculture and the industries through research and then carrying practical information to the people through its extension staff.

Steel Meeting at Biloxi

Following a recent meeting of the directors of the Concrete Reinforcing Steel Institute, a comprehensive program is being prepared for the organization's annual session, March 16, 17 and 18, at Biloxi, Miss. Headquarters will be at the Edgewater Gulf Hotel.

The nominating committee named by the directors is composed of Louis J. Lind, Carlem Engineering Company, Pittsburgh, chairman; Blair M. Boisseau, Virginia Steel Company, Richmond; F. L. Hall, Gabriel Steel Company, Detroit; D. B. Knowlton, Dudley Bar Company, Birmingham, and E. W. Langdon, Joseph T. Ryerson & Son, Inc., Chicago.

Starting at the opening of this year, the monthly tonnage reports of the Institute now show mill shipments divided as to new billet and rail steel. This is to indicate the volume of new billet tonnage now being sold direct from mills which can be routed through the warehouses of the members at a profit not formerly obtained.

Cotton Convention Called

Cotton traders in Alabama, Georgia, North Carolina, South Carolina and Florida will meet at the annual session of the Atlantic Cotton Association, scheduled for March 30 and 31 at Savannah. Arrangements for the convention are in the hands of the Savannah Cotton Exchange and President B. S. Barnes has appointed Charles O. Golson as chairman of the committee in charge. The Savannah Cotton Exchange also will prepare the program.

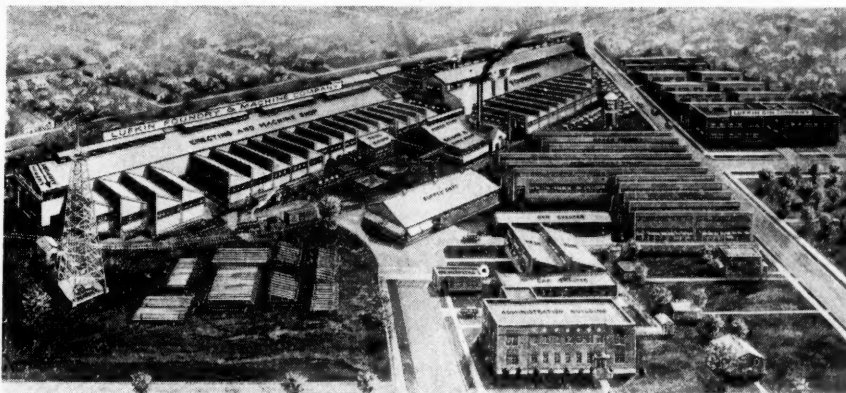
Oil Equipment Plant Expands

NEW buildings have been completed at Lufkin, Texas, by the Lufkin Foundry and Machine Co. These include a two-story brick office, a steel and brick fireproof pattern shop and storage structure, and a wash and locker room for employes. Also, an American fence was constructed around the entire plant and new machines were installed in the machine shop and the foundry department. Several specially designed tools were added.

The Lufkin company, of which W. C. Trout is vice-president and general manager, was organized in 1900 when the town of Lufkin was surrounded by thick

pine forests of East Texas and, when these forests decreased, the facilities of this plant which produced some of the large saw mills of the South and West were directed into refinery fitting manufacture.

Manufacture of oil producing equipment began with the introduction of a Lufkin worm gear unit for pumping oil wells; another development was the Sykes-Herringbone gear for oil well pumping and drilling application. Other devices made for use in connection with oil production are the Trout oil-bath Pitman; Trout counter-balanced crank, and the Lufkin center-line beam.



Plant of Lufkin Foundry and Machine Co., Lufkin, Texas

\$10,000,000 Power Program

Birmingham, Ala.—The 1931 budget of the Alabama Power Co., involving an expenditure of \$10,000,000—\$5,000,000 for operation and \$5,000,000 for construction—will differ somewhat from that of the 1930 budget, in that no large hydro-electric or steam electric plant will be built this year. Improvements during 1931 will be devoted principally to serving additional loads and improving service, according to J. M. Barry, vice-president in charge of operation. Work planned for 1931 will be distributed throughout the territory served by the company and will embrace the construction and extension of several 44,000-volt lines and the enlargement and improvement of a number of 44,000-volt stations. Extensions will also be made to the distribution system for connecting new customers and improving the service to existing customers; extension of rural lines and construction of new ones; improvements to various 110 KV substations; additions and improvements to

the company's communication system; completion of projects under construction at the close of 1930; improvements to office buildings; improvements to electric railway properties and the purchase of new transportation facilities, etc.

Lumber Plant to Employ 500

Hapeville, Ga.—Plans have been made by the Inman-Evans Lumber Co. to resume full time operations at the Hapeville plant February 1, which will necessitate the employment of about 500 men throughout the state, of which 100 will work at the plant. The mill has been closed for the past five months, and the decision to re-open it was influenced by two factors, according to C. W. Inman, president of the company. One is that the stocks on hand have been practically exhausted and the other is that officials of the company are confident that business will return to normal within a short time.

"Dry-Ice"

Revolutionizing Transit Refrigeration

BY D. H. KILLEFFER,

DryIce Corporation of America
New York City

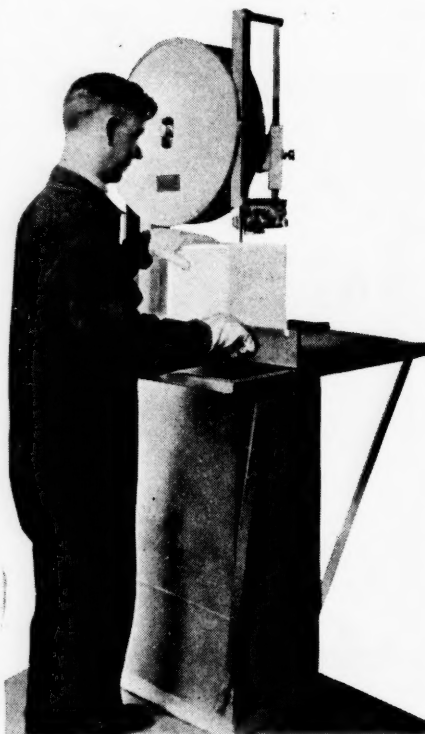
IN May, 1925, a new American industry was born with the first sale of solid carbon dioxide for commercial refrigerating purposes. A few bold spirits, backed by brave capital and possessed of vision and determination, at that time set out to materialize an inventor's dream by introducing this unique material to commerce under the paradoxical trade-mark "Dry-Ice." A thriving young industry has, in the calendar year, 1930, manufactured and marketed tens of thousands of tons of what five years ago was a scientific curiosity.

To build a new strange industry in an old field where practice and theory have long been established, has required continuous research in many fields. To be able to manufacture solid carbon dioxide to sell for \$100 a ton when the average selling price of the liquid from which it is made is well above this figure; to sell "Dry-Ice" at such a figure in competition with ice at \$4 a ton when the latent heat of the former is scarcely twice that of the latter; to create a business in building the special forms of equipment required to make the use of the new product commercially practicable, and to distribute so expensive and so fugitive a material widely enough to make it attractive to potential users to adopt it; each of these major problems has been accompanied by multitudes of lesser ones which have had to be solved before the final equations could be integrated into a going, growing industry.

The problems of manufacture have largely centered around the practicable removal of impurities—inert gases, such as nitrogen (the big problem), and odorous compounds—from the gas itself, and the efficient application of energy to the refined gas. Purification, of course, is essential not only to minimize waste of energy in manufacture, but also for the very important purpose of preventing contamination of perishable foodstuffs later to be refrigerated by the finished product. The abstraction of energy from the gas to yield a solid with a cooling capacity, or an energy deficiency, of some 280 B.t.u. per pound involves com-

pressing it to about a thousand pounds pressure and cooling it to an ultimate temperature of 109.6° below zero Fahrenheit, and the solid, once formed, must

"Dry-Ice" Can Easily be Cut to Sizes and Shapes on a Band Saw Provided With a Special Blade

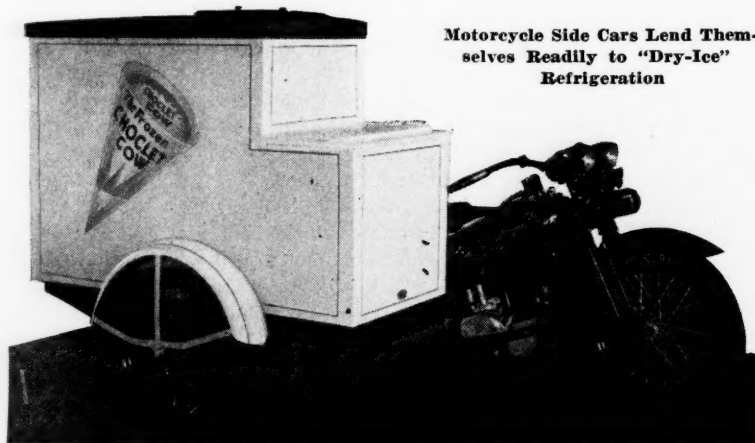


be pressed into compact blocks to allow control of its evaporation rate in use. Engineering research and skill have gone

a long way toward simplifying the manufacturing processes used, reducing substantially the power and labor required.

In order to use this unique material efficiently, full advantage must be taken of its peculiarities. Its temperature is so low (-109.6°F) that the production of any temperature from that of the atmosphere down as low as 100° below zero is a mere matter of regulating its rate of heat absorption, and hence its rate of evaporation, by insulation properly applied. Insulating materials, many of them rarely used before, have been carefully investigated and the best applied by methods and to an extent not previously practicable. The gaseous carbon dioxide resulting from the evaporation of the solid is extremely dry and hence tends to improve the value of insulating materials by abstracting moisture from them in contrast to a diminishing value usual with ice which increases the moisture content. The gas is a splendid insulator itself, much better than air, and thus increases resistance to heat flow through even dry insulation when it replaces air. It is only by taking full advantage of these peculiarities that "Dry-Ice" can yield a commercially practicable result. If used in the ordinary way to replace ice in a refrigerator of customary design, the disappointing result is that one pound of "Dry-Ice" replaces practically two pounds of ice. If, on the other hand, proper arrangements are made for its proper utilization, it is economically feasible to do many refrigeration jobs by using an amount of "Dry-Ice" a tenth to a twentieth as great as was formerly required of ice to perform the same task.

Although apparently a case of perpetual motion, this statement is none the less true in daily practice. The contradiction vanishes when one takes into account the advantages secured through novel utilization of the gas and those made possible by the redesign of refrigerators to increase their efficiency in a situation where water and moisture form no part of the problem. The weight saving made possible by the smaller amount of refrigerant needed is especi-



Sausage Can Be Shipped Safely in Paper Cartons With a Small Piece of "Dry-Ice" to Insure Safe Delivery 36 Hours Later



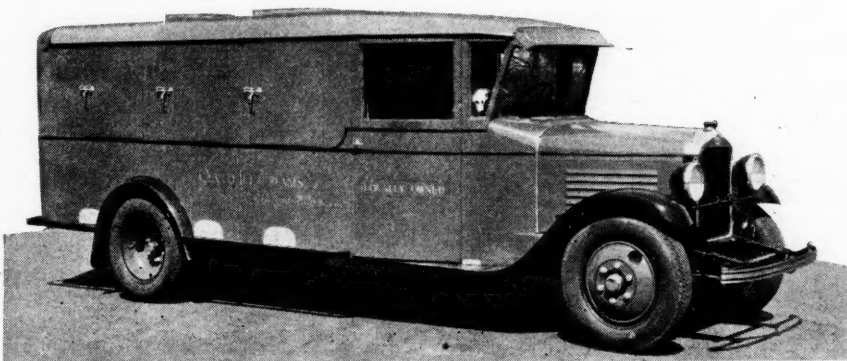
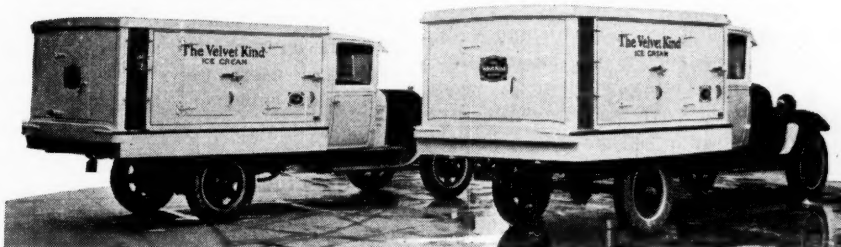
ally important where portability is a factor. This, of course, offsets the high cost of "Dry-Ice" and makes its use particularly economical in all transit refrigeration. The methods necessary to accomplish such remarkable results are naturally covered by patents, issued and pending, controlled by the pioneer company in this field.

Ice cream has been shipped by mail across the continent. A regular commercial service was established and maintained for a considerable period for shipping ice cream from New York to Ha-

daily economies effected by this remarkable material in solving every day problems of commerce are no less striking and much more important in the long run—so important, in fact, that their application has grown in spite of business recessions. For in-

lateral savings not so readily evaluated increase this figure substantially, and similar savings are realized in trucking other perishables. A five-gallon can of ice cream ready for shipment with ice and salt weighs nearly 150 pounds, while the same ice cream in a "Dry-Ice" refrigerated paper carton can be safely shipped much farther and weighs only 38 pounds. The customary iced box for carrying 150 pounds of meat weighs just over 400 pounds ready for the expressman, but the same quantity of meat can be safely shipped with "Dry-Ice" in a properly assembled slack barrel having a gross weight of 190 pounds. In the shipment of Florida strawberries to New York, eighty quarts of berries in an iced

Ford Trucks Refrigerated With "Dry-Ice" Carry Ice Cream for Southern Dairies, Inc., Miami, Fla. Each Has a Capacity of 300 Gallons



Absence of Brine and Drip From "Dry-Ice" Refrigerated Trucks Permit Them to Be Not Only Useful but Decorative. Witness This White Unit

vana and to Port au Prince, Haiti. A druggist in Oklahoma buys his regular supply of ice cream from a manufacturer in Missouri, fifteen hours away by fast express. Fresh meat in barrels is regularly shipped from New York to Miami by ordinary express. Carloads of frozen fish have been shipped from Connecticut to Chicago without recharging with refrigerant. A regular steamship freight line from New York to South America supplies its crews with provisions from refrigerators charged once with "Dry-Ice" for the complete voyage of eighteen days.

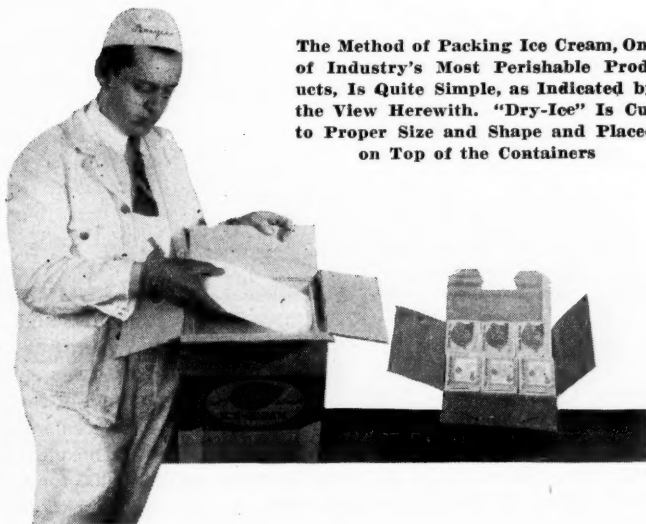
Certainly these instances show the reality of an inventor's vision now materialized, but at best they will strike the reader as of rather remote utility. The

stance, a truckload of five hundred gallons of ice cream, which requires a 3½-ton chassis when ice and salt is used as a refrigerant, can be more safely carried under "Dry-Ice" refrigeration on a 2½-ton, or lighter, chassis with a net direct saving of several dollars per day. Other col-

pony refrigerator weigh 440 pounds while the same berries in special "Dry-Ice" refrigerated paper cartons weigh 140 pounds ready to ship. These figures are based on day after day performance of many users of the new methods and upon throwing away the containers used with "Dry-Ice" after a single trip.

The application of "Dry-Ice" in the South has grown rapidly since the building of plants for its manufacture at Atlanta and Jacksonville nearly two years ago. During the past year distributing warehouses have been established by the DryIce Corporation at Baltimore and Memphis, and a licensed company has operated plants at New Orleans and

The Method of Packing Ice Cream, One of Industry's Most Perishable Products, Is Quite Simple, as Indicated by the View Herewith. "Dry-Ice" Is Cut to Proper Size and Shape and Placed on Top of the Containers



Fort Worth, to assist in supplying the growing need for this refrigerant. Plants at St. Louis, Cincinnati and Philadelphia are also able to ship their product into the Southern territory to assist in building up the business. In addition to the supply of "Dry-Ice" itself, the special equipment for use with it is equally important. Five manufacturers of the special corrugated boxes required and eight builders of permanent equipment, such as trucks, for use with "Dry-Ice" are operating under license from the "Dry-Ice" Equipment Corporation in various strategically located cities in the South to supply the needs of users of the product.

The business based on this development has grown at a rapid rate throughout the United States. Eighteen plants manufacture "Dry-Ice" from coast to coast and distribution has been established to care quickly for demands in practically any section of the country. Not only its rapid growth but its very picturesqueness have encouraged many promoters to try to sell stock to a public willing to be enticed by an interesting story. It is most unfortunate that any seriously revolutionary industrial development must be handicapped by such promotions, but it seems impossible to prevent it.

Failure of the public to realize three facts with respect to this new industry is responsible for the success of such schemes. Next to water and air, carbon dioxide is the most plentiful natural

raw material. The possession of a quantity of it is justification for going into the business of producing it in solid form in a no more real way than the possession of a spring or river of water is a ruling cause for going into the ice business or the possession of plenty of air justifies one in going into the business of liquid air. In each case the processes of manufacture are highly technical and the problems of the business are enormous in comparison with the supply of a proper raw material. The second important point lies in the necessity of being able to manufacture and sell the product at a profit. An erroneous impression has gained wide currency that the mere offer of the material itself assures its sale, but the fallacy of this is immediately evident when it is realized that for its use special equipment must be provided (rendering existing equipment obsolete) and that during 1930 all demands of prospective users were very promptly and continuously met. A third point of considerable weight is the existence in the field of an aggressive, soundly financed organization well equipped with technic, with patent protection, and with plants strategically located throughout the United States capable of supplying demand for its product from Jacksonville to Seattle and from Boston to Los Angeles. Under the circumstances, a beautifully lithographed stock issue and a supply of carbon dioxide lack much of assuring success to unwary investors in the field.

Important Decision

The United States District Court of the Eastern District of Missouri has announced a consent decree, in the case of United States vs. Painters District Council, etc., which is of interest to manufacturers of finished equipment. It was charged that the painters operated in violation of the Sherman Act in their efforts to restrain trade in the free movement in interstate commerce of built-in kitchen cabinets, finished store fixtures, manufactured building trim, wooden bathroom cabinets and similar articles in the manufacture of which paint was applied by a spray in the factory at the time of manufacture, thereby rendering unnecessary the employment of painters at the time and place of final installation.

The decree adjudges that the combination and conspiracy is in restraint of trade, and therefore illegal. "It will again throw open the hitherto racketeer-controlled markets of St. Louis, Chicago, and other cities, and is the most drastic blow struck at the system since the in-

ception of the open and closed shop struggle," says the Georgia Manufacturers Association.

\$1,052,568,000 Supply Bill

Washington, D. C.—The annual independent offices supply bill, as reported to the House by its appropriations committee, carries a total of \$1,052,568,000, an increase of \$246,790,000 over current expenses. Consolidated veterans' activities were given \$866,012,000, exceeding this year's outlay by \$108,298,000, while the Farm Board received \$100,000,000 as the last installment of its \$500,000,000 revolving loan fund. Among other items, the United States Shipping Board was allotted \$35,000,000, to be loaned under the Jones-White Merchant Marine Construction Act, and an additional \$2,406,000 for operating expenses. A sum of \$3,750,000 was allotted for beginning construction of the new \$8,240,000 United States Supreme Court building; \$1,050,000 for a hospital at Hot Springs, Ark., and \$300,000 for a 138-bed hospital addition at Augusta, Ga.

Cotton Manufacturers to Meet

Through a change in arrangements, the annual convention of the American Cotton Manufacturers Association will be held at Augusta, April 23 to 25, instead of Atlantic City on other dates, as originally had been planned. President B. E. Geer of Greenville, S. C., and the program committee are at work on the details. Cason J. Calloway, LaGrange, Ga., is first vice-president and B. B. Gossett, Charlotte, is second vice-president. The directors are William D. Anderson, Macon; S. M. Beattie, Greenville, J. H. Cheatham, Griffin, Ga.; Donald Comer, Birmingham; J. C. Evins, Spartanburg; A. M. Fairley, Laurinburg; F. J. Haywood, Kannapolis; George H. Lanier, West Point, Ga.; Robert Lassiter, Charlotte; T. M. Marchant, Greenville; W. H. Hightower, Thomaston, Ga.; E. W. Swift, Columbus, Ga.; T. H. Webb, Concord; A. K. Winget, Gastonia; and George M. Wright, Great Falls, S. C.

Clayworkers Conference

Program

Numerous subjects of interest and importance have been placed in the program for the Clayworkers Conference to be held February 2-4, at the University of Alabama, University, Ala. Sessions will be held in the Chemistry building, the Alabama Union building will be utilized for rest and recreation and the Mc-Lester and Burchfield Hotels and Druid City Inn will accommodate the visitors.

Besides a welcome from Dr. George H. Denny, president of the university, the program opens with papers by Dr. A. V. Henry and Professor W. H. Vaughan, both of the Georgia School of Technology; T. H. Finks, Alabama Power Company, and Professor R. K. Hursh, University of Illinois. Other speakers on the list are Professor T. N. McVay and Associate Professor R. L. Farabee, University of Alabama, and Wesley R. Moore, Brown Instrument Company.

Among the outings will be an inspection of the Fox plant of the Stephenson Brick Company and the mill of the Gulf States Paper Corporation.

\$1,095,000 Bond Election

Parkersburg, W. Va.—An election will be held in this city March 3 on bond issues aggregating \$1,095,000, covered in ordinances—one proposing the issuance of \$445,000 for public improvements; a second for the issuance of \$350,000 for streets and street improvements, and a third providing for enlarging the waterworks system and for laying storm sewers.

World's Largest Bank Vault

THIRTY-EIGHT railroad cars recently arrived in Baltimore from the neighboring city of York, Pa., filled with half the parts for a bank vault at Tokyo, Japan, designed to be the largest of its kind in the world to the present time. Material for the other half is being fabricated and also will be forwarded from York through the Baltimore port. For an American manufacturer to secure orders from Japan on the basis of competition with skilled craftsmen of the world and for the largest vault ever built is a noteworthy illustration of American business enterprise.

Constructed by the York Safe & Lock Company for the Bank of Japan, the vault is described by S. Forry Laucks, president, as a two-story arrangement, each vault being 187 feet long and 83 feet wide. Each vault is divided into seven vaults by steel partitions, making

14 in all. Seventeen doors afford entrance, six being 36 inches thick and 11 of 24-inch thickness. All the walls have a steel lining of one and a half inches.

In the construction, the York Safe & Lock Company has used materials and all known methods for protection against burglary, fire, earthquake, flood, explosion and mob violence. Resistance is provided against drills, explosives, oxy-acetylene cutter burners and other implements and devices, and the doors and steel linings are supplemented by reinforced concrete walls.

Ingenious and intricate combinations of bolts and locks are made further effective by time locks, and the heavy doors are so accurately fitted with roller and ball bearings that they can be moved easily by one person. All parts have been thoroughly tested and the

work has been pronounced of highest type.

Construction of the vault was commenced early in 1929 and finished on schedule time. The first shipment of 1500 tons was recently made, to be followed, it is planned, with another shipment of 2000 tons requiring about 50 freight cars for transshipment through Baltimore to Japan.

As erector for the company, Oscar Schmidt, Jr., has sailed for Tokyo, to superintend the installation. This task is expected to require about 12 months, with 50 persons engaged in the work. A representative of the Bank of Japan inspected the loading of the parts into the steamer at Baltimore.

Next in size to this vault is the safe of the Federal Reserve Bank in New York, which was completed recently.

Part of the 38-Car Trainload



"Double Header" on the Pennsylvania Railroad ready to pull out from the York Safe and Lock Company plant at York, Pa., for Baltimore, with 38 carloads containing initial shipment of the world's largest bank vault, to be erected by York engineers for the Bank of Japan at Tokyo. At the port of Baltimore the shipment was transferred to the Steamer "Tokai Maru" of the Japanese Steamship Lines which was sent to Baltimore especially to pick up this cargo. A second shipment requiring about 50 freight cars is to be made early in April.

Suggested Railroad Economies

By L. F. LOREE,

Chairman Executive Committee, The Kansas City Southern
Railway Company, New York

REFERRING further to the need for railroad pruning to bring about greater economies, as suggested in my letter published in your editorial of December 18, I think it is true that "the public naturally looks to railway executives to clear the atmosphere of misunderstanding and to point the way out." I am not undertaking a *defense* of the railroads. Some of the things mentioned are things which railroad management has the power to do, and, to the extent that they have not been done, railroad management is open to criticism. The power to do other things mentioned rests in public authority and not in railroad management, and, to the extent that that situation can be changed, the general situation would be improved.

1—In 1922, on the Delaware and Hudson property, we made a very careful inventory of our buildings and have since been year by year dismantling such as we could dispense with. At the present time the case stands as follows:

Type of structure	Number abandoned		
	in 1922	to Dec. 31, 1930	Per cent
Miscellaneous	1503	318	21.15
Water Stations	112	19	16.96
Turntables	38	12	31.58
Total	1653	349	21.11

Probably in the next five years we can eliminate an additional number to a total of 25 per cent, which, I think, justifies my estimate of 20 per cent for the country as a whole. Here the railroads have a free hand.

2—As to stations, on the Delaware and Hudson there were 182 and of these 35, or 19.23 per cent, have been abandoned. When we were using horse-drawn vehicles on dirt roads, doubtless stations at five mile intervals were of great convenience. Now, with hard-surfaced roads and motor vehicles, the interval can be greatly lengthened with no inconvenience and with real economy.

Here authority for their abandonment must be secured from the state. As samples, in one case, application was filed July 26, 1928, and approved August 15, 1929; in another filed December 12, 1928, the approval was dated July 25, 1930. Thus matters that a business executive would have determined in a few days, were in suspense for thirteen and for nineteen months, respectively.

Modernizing Equipment

3—Following a war or the introduction of a new industry, there is always a great activity in invention, new processes and business organization. It was so following the Napoleonic wars and the introduction of the textile industry, and has been very markedly so following the World War and the development of the automobile, radio and electrical industries, and other new appliances and processes. We began on the Kansas City Southern in 1922 a thoroughgoing remodeling of the shops, machinery and tools. In the shop at Pittsburg, Kansas, which had been rebuilt and tooled in 1906 under the direction of the Arnold Company, of Chicago, then one of the most competent of the firms of mechanical engineers, we have replaced 80 per cent of the tools, as well as enlarging and remodeling the entire plant. At nearly all the roundhouses additional stalls 120 feet deep were added, Bethlehem twin span turntables installed, water stations enlarged and other elements of the property substantially rebuilt. In March, last, while on inspection, I asked Mr. Hall, the Superintendent of Machinery, how much money he needed to complete the work. He said he did not see how he could spend more than \$65,000, which was put on the budget. Mr. Hall, a highly valued expert, was killed shortly afterwards at a wreck. Life is not all "beer and skittles" for the railroaders, whether officers or men.

For the years 1922 to 1929, both inclu-

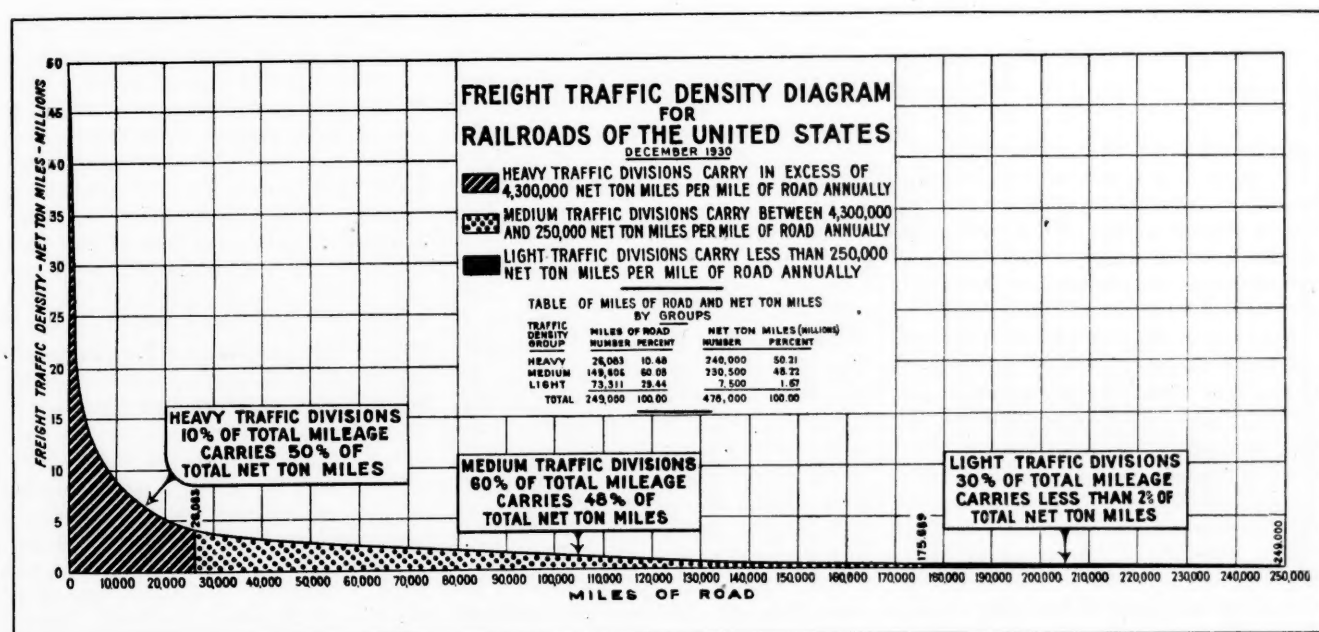
sive, the expenditures for this account on the Kansas City Southern Railway were \$2,086,103.79. Estimating roughly upon a gross earnings basis, it would seem that the railroads of the country might have spent to advantage in this way some \$600,000,000, of which they have actually spent in the past eight years about one-half. Here again the matter is one with which management can deal freely, having reference, of course, to their financial resources.

Car Capacities Increased

4—There were in stock of all United States Class I railroads in 1929, 2,277,464 freight cars, an increase over 1911 of but 8 per cent, but the tonnage capacity of these cars had grown up to 105,410,136 tons in 1929, or an increase over 1911 of 35 per cent.

The effect of changes in freight cars has been one of the greatest influences in the development of American industry. When I started railroading the largest gondola car had a capacity of 30,000 pounds, it was 30 feet long and the tonnage rating was 63.36 per cent of the gross weight. The gondola car of today has a capacity of 154,000 pounds, is 40 feet long and the tonnage rating is 77 per cent of the gross weight. The cost of the lighter car was \$350, or \$23.33 per ton of load, and of the heavier car today is \$2400, or \$31.16 per ton of load. This concentration of weight and lessening in the number of vehicles to be moved has greatly reduced the frictional and atmospheric resistances to be overcome, and the track space, main line, passing, storage and yard tracks, shops, etc., to be provided, as well as curtailed the switching service, greatly reducing the cost of operations. Meanwhile, this equipment has been several times progressively replaced. On March 1, 1920, practically all the old thirty, forty and fifty thousand pound capacity cars had disappeared, the total then listed containing 41,868 below 60,000 pounds ca-

The following experience of The Delaware and Hudson Railroad Corporation is indicative of fuel consumption in mov-



ing 1000 tons (gross) one mile on an 0.8 per cent grade :

	Pounds
Standard consolidation locomotive of 1916	84.5
Boiler pressure raised to 275 pounds..	63.3
" " " 350 "	48.8
(With water tubes in fire box and compound cylinders)	
Same with pressure raised to 400 pounds	45.9
Same with pressure raised to 500 pounds and heating feed water.....	40.0

Or a reduction of 53 per cent. When all the economical devices now on trial that approve themselves are applied to the one engine, we hope that this consumption may be reduced to 32 pounds, or 63 per cent.

The average consumption for all locomotives on Class I railroads of the United States in 1929 was 125 pounds, per 1000 tons (gross) one mile.

The future of power production is with the steam engine. So perfect is the machinery of hydro-electric production that from a column of water falling 100 feet, in five feet of distance and in one-tenth of a second 94 per cent of the energy may be recovered. Further improvement, if possible, is of slight value. In the use of coal the average recovery of energy is not more than 6 per cent, and in the best locomotive above indicated about 10 per cent. The cost of producing power by the two methods is now substantially equal; the one has been brought to practical perfection; the other has as yet been but barely started.

Here again the management has a field obstructed only by accounting and paucity of financial resource.

Mileage Abandoned

6--The railroads have been built to serve a wide variety of interests—some to accommodate large populations, some to develop territory just opening for settlement, some to make possible lumber and mining operations now exhausted, some to compete for traffic already developed.

At times the accessions of mileage have been very large, as during the years before the panic of 1873.

Some few roads have been abandoned.

There were at the close of 1929 in operation about 261,000 miles of line, of which 241,568 miles, or 91 per cent, earned about 97 per cent of the total revenues and are grouped by the Interstate Commerce Commission as Class I roads, being those roads whose gross operating revenues are a million dollars, or more, in a year. This is an increase of main line mileage over 1911 of 11 per cent, while the total trackage of all lines in the country, main, yard and side tracks, has increased from 363,000 miles to 428,200 miles, or 18 per cent.

The ton mileage moved on all railroads in the United States varies enormously as to the roads handling it and, as is illustrated in the accompanying

diagram of freight density, is so distributed that 10 per cent of the mileage moves about one-half of the business, 60 per cent of the mileage moves about 48 per cent of the business and 30 per cent of the mileage moves less than 2 per cent of the business.

The light traffic branches, divisions, or roads, with a traffic density of less than 250,000 net ton miles per mile of road, total 2577 in number, have a total mileage of 73,311 miles, and use about 6600 locomotives, 80,000 freight and 6000 passenger train cars. This light mileage divides into two general classes—branch lines and parts of lines, totaling 2094 in number, aggregating 57,742 miles, owned by some 90 roads of the Class I operating companies, and small, independent lines, Class II and III, 483 in number with a total mileage of 15,569 miles. A study of the report of 459 light traffic roads, with mileage of 16,304, shows an accumulated corporate deficit to December 31, 1928, of \$63,282,963. If all the light mileage has been no more fortunate, and it would not seem that it has, then the total accumulated corporate deficit of these unfortunates would be about \$285,000,000. They are probably all parasitic and cannot justify their operation as a private business when challenged economically. No one of these lines may be abandoned, either in whole or in part, without first securing the authority of the Interstate Commerce Commission. In a case I have in mind, the time between the date of the application and that of the decision was two years and seventeen days. The preparation of the case, plans, estimates and other data, as well as counsel fees and witness expense, was considerable. The records of the Interstate Commerce Commission show that in the eight years, 1922-1929, applications had been filed in 416 cases to abandon 7,266.34 miles and authority granted in 335 cases, with a total mileage of 4,705.52.

In this matter management is without authority. What remains to it is the power to initiate action. To the extent that this mileage belongs to large operating companies, they have not been as active as their necessities indicate they should have been in seeking abandonments. To the extent that such mileage belongs to independent companies, little effort has been made to secure permission to abandon, the owners apparently hoping to be able to make a forced sale of such mileage at high prices to unwilling buyers, using the consolidation legislation to that end.

It must always be kept in mind that in the steam transportation field immediate real economies can now only result from a policy of reconstruction, carefully planned and relentlessly followed through. The first step indicated is a systematic and thorough pruning.

Foundrymen Hold Regional Meeting

Subjects of importance to the industry were discussed in a regional meeting of the American Foundrymen's Association, held recently at Birmingham. Thirty concerns, foundries and kindred industries in the Birmingham district acted as hosts to the convention.

The session on high-test cast iron was featured by addresses from J. T. McKenzie, American Cast Iron Pipe Company, and H. Bernstein of Deere & Co., Moline, Ill., and in resultant discussions. E. K. Smith, Stockham Pipe & Fittings Company, Birmingham, was chairman of the session on practical control; H. W. Dietert, United States Radiator Corporation, chairman, fundamentals of sand control; Max Kuniansky, Lynchburg Foundry Company, Radford, Va., leader, sand control in a pipe foundry; L. N. Shannon, Stockham Pipe & Fittings Company, Birmingham, chairman, foundry costs and fundamentals in determining costs of castings production.

Hugh Morrow, president of the Sloss-Sheffield Steel & Iron Company, was toastmaster at a banquet at the Tutwiler Hotel, at which S. W. Utley, past president of the association, was the principal speaker.

Several local plants were inspected among the many with which members of the association do business.

N. K. B. Patch, Buffalo, N. Y., is president of the American Foundrymen's Association and C. E. Hoyt is executive secretary, with headquarters at Chicago.

\$12,000,000 Gasoline Pipe Line Progressing

Ponca City, Okla.—The entire office personnel of the Great Lakes Pipe Line Co., which is building a 1500-mile pipe line from Oklahoma to Milwaukee at a cost of about \$12,000,000 will be moved from Ponca City to the Fairfax Airport Building at Kansas City, Mo., according to D. J. Moran, president. Beginning January 31, all operations of the company will be handled from the Kansas City offices. The proposed line has been completed from Ponca City to Kansas City and the entire line is expected to be completed by April 15. Construction is under way on 11 of 21 pump stations along the line through Barnsdall, Kansas City, Des Moines, the Twin Cities, Chicago and Milwaukee, and has been started on stations on spur lines to Okmulgee and Muskogee, Oklahoma, and to Omar. When completed the line will have a capacity of 300,000 barrels of gasoline, with storage tanks of 1,300,000 barrels capacity.

Steel Founders Meet

BELIEF that better trade conditions are in sight and that better competitive conditions have been established within its circle was probably the most significant feature of the annual meeting of the Steel Founders Society of America, Inc., in session this week at the Hollenden Hotel, Cleveland.

"With returning confidence, the general impression seems to be that there will be a gradual but continued improvement, and that by early fall conditions will be approaching normal," said W. H. Worrilow, Lebanon Steel Foundry, as vice-president and chairman of the Eastern division of the society, in speaking of trade.

"I am here to testify to a better condition of affairs among the competitors in our industry than ever before has existed," said Arthur Simonson, Falk Corporation, as vice-president and chairman of the Midwest-Southern division, commenting on conditions within the trade.

On all sides it was felt that, while business had not been normally brisk and competition had been very keen, the organization had contributed very greatly to stabilizing the industry and that a foundation had been laid for full participation in the anticipated national business revival.

"The question of prices has been a serious one in the East," Mr. Worrilow added in summarizing the situation, "but they are holding up surprisingly well when one considers conditions. The foundries seem to be respecting each others customers and to realize the futility of naming prices they know will not be used in placing business, but may be taken advantage of to drive down the prices of the regular vendor.

"It also may be said for the trade that, apparently recognizing the reduced amount of orders being placed and the higher cost of producing them, it does not insist on getting the last ounce of flesh out of the foundries. I believe that, if good sales strategy be used, a great many prices can be fairly well maintained. It is during such times as these that one can learn how good his sales force is."

In much the same sentiment, cooperation was stressed by J. E. McCauley, Birdsboro Steel Foundry & Machine Company, in his presidential address to the society.

"How can we best serve the industry?"

Mr. McCauley continued. "Perhaps the question is answered better by reciting some of the evils which beset it. The worst of these has been a tendency on the part of some manufacturers to sell at less than cost of manufacture. Another existing evil is the refusal on the part of some to confine their sales efforts within their own geographic territory. These two things have added, probably more than any others, to any confusion in our industry.

"It is my hope that as soon as our uniform cost system is universally established, and with the information we get by the exchange of cost data, we shall all better appreciate the importance, to each one of us, of pricing our product at a figure which will represent our cost plus a profit, and will confine our sales efforts to the territory from which we should reasonably expect to obtain business.

"If we are going to maintain our position in industry, it is important that we make sufficient profit, so that we can replace our antiquated machinery with modern labor-saving devices and thereby reduce our cost and improve our quality."

An especially important development in the year, President McCauley said, had been the establishment of a research department, with investigation of new uses for steel castings as its first objective. Realization that the industry as a whole had operated at only 60 per cent capacity, he added, explained the real necessity for this step.

"We have too long ignored the encroachments being made on our tonnage by other products," Mr. McCauley declared.

Constructive results of the reorganization of the Steel Founders Society were set forth by Granville P. Rogers, managing director, who quoted a member as saying that the reorganization "will exert a greater influence on the general welfare of the steel foundry industry than any other movement of the current year." The banding together of members in all parts of the country is expected to result in "better and lower cost of production, more intelligent merchandising, technical and market research, a higher standard of ethics and full cooperation on common problems."

A five-year program, adopted a year ago, is well under way.

As a productive step in development of the industry, the merchandising committee considered an advertising campaign to create a greater acceptance of steel castings on the part of engineers, and recommended such action as soon as the time should be considered ripe and adequate funds be available.

"The use of the words 'Cast Steel' on all steel castings is recommended," this committee's report continued. "The managing director has been authorized to have the necessary dies prepared for the production of metal strips bearing the words 'Cast Steel,' in sizes ranging from letters one-half to two and a half inches high. These will be provided at cost. All steel foundries are requested to use the words 'Cast Steel' on their products, whenever possible. It is an effective means of keeping steel castings before equipment manufacturers and users and should build greater acceptance and recognition of the comparative merits of our product."

The committee also endorsed a suggestion that individual steel foundries underwrite a certain amount of advertising each year, "designed to benefit cast steel and the steel foundry industry in general," rather than their own specialties.

Favorable reaction by foundries and purchasers to a new Code of Standard Trade Customs for Steel Foundries was reported by the industrial research committee. The code was described as "a simple set of customs to protect both buyer and seller of steel castings," approved by Clark McKercher, counsel to the organization.

The growth of the society in numerical strength in the year had been encouraging, the membership committee reported. This, it felt, "indicates the confidence of the steel foundries in the fundamental soundness of the society's program of activities, and is a testimonial to the fact that the constructive work the organization has done in the past year and plans to do this year is recognized by many."

The statistical committee said, among other things, that it had recommended a survey to determine the tonnage of steel castings sold within each state and in each province in Canada, and also the tonnage sold to various industries, such as railroad, automotive and so on. A similar study with reference to heat-erosion resistant alloy castings, it felt,

should be made concurrently. The resultant information is expected to make possible "a more scientific merchandising of our product and to assist in the planning of sales merchandising and advertising campaigns by steel foundries."

The statistical committee was composed of C. A. McDonald, Sivy Steel Casting Company, Chicago, chairman; E. A. Balsley, Chicago, and B. C. Wait, Milwaukee Steel Foundry Company, Milwaukee. Other committees were:

Membership—S. W. Utley, Detroit Steel Casting Company, Detroit, chairman; W. W. Horwood, Canadian Steel Foundries, Ltd., Montreal; Frank M. Robbins, Ross-Meehan Foundries, Chattanooga; C. S. Anderson, Racine Steel Castings Company, Racine, Wis.; A. K. Reading, Zimmerman Steel Company, Bettendorf, Iowa.

Industrial Research—Harold S. Falk, Falk Corporation, Milwaukee, chairman; Frank D. Glosser, Commercial Steel Casting Company, Marion, Ohio; Marshall Post, Birdsboro Steel Foundry & Machine Company, Birdsboro, Pa.

New Uses—Mr. Post, A. S. Blagden, General Steel Casting Company; G. R. Casey, Treadwell Engineering Company; Ray Doty, Reading Steel Casting Company; H. C. Cunningham, Crucible Steel

Castings Company; C. Tolan, Jr., Dodge Steel Company, and Mr. Worrlow.

Among the new members are the Adirondack Steel Foundries Corporation, Watervliet, N. Y.; Roxbury Steel Casting Company, Boston, Mass.; Hartford Electric Steel Company, Hartford, Conn.; Pratt & Letchworth Company, Buffalo, N. Y.; Symington Company, Rochester, N. Y.; Gould Coupler Company, Depew, N. Y., and Federal Steel Foundry Company, Chester, Pa.

\$1,000,000 Building Bids

Washington, D. C.—The Standard Oil Company of New Jersey opens bids February 12 at the office of Clyde N. and Nelson Friz, architects, Baltimore, to erect a 6-story and basement office and garage building here at a cost of about \$1,000,000. The building will be 335 by 71 feet, with a court in the rear above the second floor, 200 by 20 feet. Herman F. Doeleman is the structural engineer and Reeder, Eizer & Akers, mechanical engineers, both of Baltimore. Lynn Rosebrook, New York, is the company architect.

\$1,260,000 St. Louis Schools

St. Louis, Mo.—The erection of a new high school building and an elementary structure, estimated to cost \$1,260,000, has been authorized by the Board of Education, Emil J. Barth, president. The new buildings, to be located in the southwestern section of the city, are estimated to cost \$900,000 and \$360,000, respectively, bringing the school building program for major structures to approximately \$5,200,000, as it is estimated that \$4,000,000 worth of work is already under way, principally at the Hadley Vocational School. Ernest T. Friton, commissioner of school buildings, was directed to prepare preliminary specifications for the buildings and submit them to the board as soon as possible for approval. The high school will have about 40 class rooms, laboratories, lunch room, auditorium and other facilities, and the elementary school 16 class rooms, kindergarten, manual training room, play room, etc. As funds become available, the board is expected to recommend similar high schools for the northwestern section, central section and probably one near Hampton and Penrod avenues

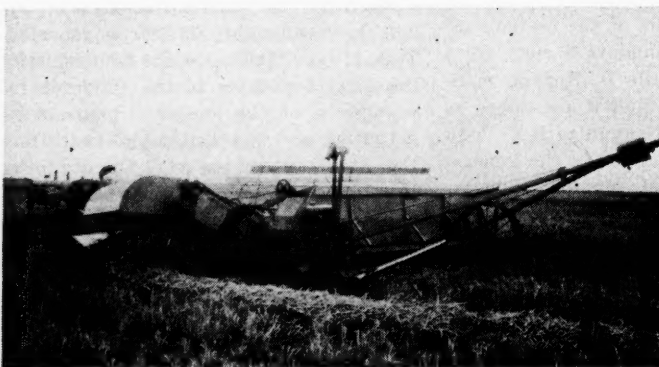
Windrow Combine Rice Harvesting

In a rainy-day demonstration recently at Devers, Texas, before officials of the American Rice Growers Association, a Windrow system of combine harvesting with crawler tread under the harvester was used, to negotiate water-covered rice fields. Government officials, railroad agricultural agents, rice growers and others pronounced the demonstration a complete success. According to Prof. Dan Scoates, head of the Agricultural

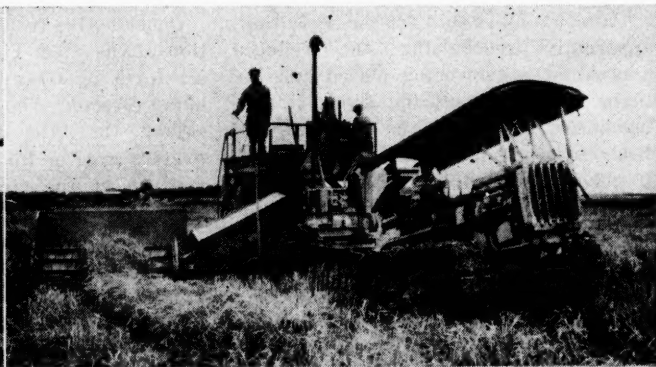
Engineering Department of the Texas A. & M. College, "It looks like the harvesting problems of the rice growers are solved." It was the announced plan to introduce windrow harvesting for the 1931 crop. In sporadic and unsuccessful attempts at harvesting rice within the past two years, straight combining had been undertaken, it is said, and this required artificial drying and costly construction which the average grower could not afford.

Advantages claimed for the Windrow

System by J. R. Taylor, former manager of the great Tom Campbell wheat farm in Montana include the following: Cuts cost of labor and time; improves the grade of rice; reduces grain losses; obviates the weather hazard, 60 or 70 acres daily being harvested; permits earlier marketing; fields are left in good shape for the following year; increases soil fertility by leaving longer stubble and scattered straw; decreases the need of itinerant labor, and in a word insures profitable rice production in the South.



The Windrow Header laying down an endless ribbon of rice that rests on top of the stubble, permitting wind and sun quickly to dry it for handling by the combined harvester with pick-up attachment four or more days later, depending on wind conditions.



Despite rainy weather and soggy fields that required rubber boots for visitors who followed the machine, the successful harvesting of rice by the Windrow system was accomplished on the Devers Canal Company holdings near Devers, Texas.

Confidence in Power Industry

PLAIN facts in regard to the power industry were clearly presented by Henry R. Hayes, vice-president of Stone & Webster and Blodget, Inc., before the problem discussion groups of the Security Owners Association at a recent dinner in New York. "Public Confidence in the Power Industry" was the text of Mr. Hayes' remarks.

In their lack of knowledge concerning the power industry, Mr. Hayes felt that the people at large are gathering an impression that "capital has built up another grasping and ominous trust to control the power supplied to industry, to throttle competition and to fix prices to the disadvantage of the consumer." This view he believed could best be controverted by the industry through "sound, frank and honest work informative in character, so that real facts will be understood and appreciated."

Large sales in the service, Mr. Hayes first said, are in the face of competitive conditions, and mergers in the business have been occasioned largely by "improvement in the art of electric generation, transmission and merchandising of electric units following economic laws that have and will inure to the benefit of all classes of consumers."

"The public has a right to examine into the business of this great essential industry because the service sold is a public service," Mr. Hayes continued. "As a matter of fact, a thorough investigation is being made of the industry by the Federal Trade Commission. I know that this has been searching in its details and apparently quite thorough."

First defining a "capitalist" as an "investor who is thrifty and who saves out of his earnings," Mr. Hayes added that there are more capitalists than there are families in this country. Any savings banks depositor, he explained, or any individual carrying life insurance is indirectly and vitally interested in a financial way in the public utility business, because savings banks and life insurance companies very generally invest in bonds and other securities of power industry companies.

"In this situation, therefore," said Mr. Hayes, "a large body of the public, though they do not fully realize it, are interested in the success of the power industry through individual ownership or a broad holding of securities by banks, insurance companies and others which hold public funds."

Despite political talk, he asserted, there is no situation in the power industry today which properly should cause alarm. Too little is known of the great strides made by the industry in technical science, in research and in the way in which it has developed the uses of electricity that have been of value in the advancement of great industries and promoted comfort and economy in the home.

The continued increase in efficiency in the use of fuel by steam power plants, with consequent reduction in the total amount required, was said by Mr. Hayes to have had an important effect on the conservation of fuel resources. The average consumption of fuel per kilowatt-hour has dropped from more than six pounds in 1929 to 1.7 pounds at present, and in some instances to less. Great improvements have been made in steam generating machinery.

"Practically every community in the country of 1000 population and over has electric service, and 50 per cent of all between 250 and 1000 population," said Mr. Hayes. "In 1907, there were 1,946,978 customers of all kinds of electric service. In 1929, domestic consumers alone numbered over 20,000,000. More than 70 per cent of our people now live in homes electrically served. In the domestic field, there are now over 200 household appliances, each rendering a different type of service."

"In the industrial field, electricity has revolutionized the production methods of many types of business and this development continues without interruption. In railway electrification, great strides are being made. In agriculture, we find that 650,000 farms have been electrified in the past 10 years."

Also, Mr. Hayes discussed in detail the following specific allegations which he cited: (1) That there is a failure in statewide regulation of utilities; (2) that there exist improper or inadequate accounting methods; (3) that there has been undue access to the Federal courts, instead of first having cases routed through state courts; (4) a public suspicion that in "this great, profitable industry" the benefits are not fairly divided between the owners and the public, consequently there are a lot of hidden profits; (5) that there have been undue financial promotional profits. The topics he took up seriatim and in detail and presented a reply for the industry.

"There is a great obligation to create a proper public understanding and a just appreciation of the power industry and other public utilities as well," Mr. Hayes concluded, and this obligation he laid on management and the investment banker and the investor.

"Industry and Culture in the South" was the subject of an interesting paper presented by Dr. James S. Thomas of Birmingham.

Stimulating Construction Activity

Impetus for industry and business in Atlanta has been planned by the Advertising Club of that city, which at the request of the Better Business Commission decided to stimulate the renovating, repairing and painting of buildings and other construction work. Miss Jimmie Winn was appointed a committee of one from the club to cooperate with the Better Business Commission, and both organizations turned to her for constructive suggestions on practical and productive lines. Advertising was mentioned as an outstanding factor in the movement.

New Industries in Jacksonville

Twelve new industries in Jacksonville in 1930 are announced by the Jacksonville Chamber of Commerce. According to President Baldwin, these new concerns add to the city a capital of more than \$800,000 for lands, machinery, buildings and so on, and \$593,020 a year to the business and industrial payroll. More than 800 wage earners are employed by the newcomers. Four were financed by local capital and eight brought outside investment moneys to the city.

\$500,000 Hospital Building

Louisville, Ky.—General contract to erect a new \$500,000 building here for the John W. Norton Memorial Infirmary has been awarded to J. F. Russell & Co., Louisville. The building will be 5 stories, Y-shaped, of brick and stone construction. D. X. Murphy & Bro., Louisville, are the architects and Frank E. Chapman, director of University Hospital Group, Cleveland, Ohio, is the consultant.

Baltimore-Hamburg Steamship Service

THE recent merger of the International Mercantile Marine Company and the Roosevelt Steamship Company is expected to benefit the new Baltimore Mail Steamship Company, incorporated with an authorized capital stock of \$10,000,000 to establish a direct transatlantic service between Baltimore and Hamburg, Germany; as it will affiliate the new company with one of the largest steamship organizations in the world. The Baltimore Mail Steamship Company was formed last summer by Baltimore financial and business interests, joined by the Pennsylvania and the Baltimore & Ohio railroads and interests connected with the Roosevelt Steamship Company. It is to maintain regular weekly sailings for passengers, mail and fast freight from Baltimore and Hampton Roads ports to Hamburg, calling at Havre and Bremen.

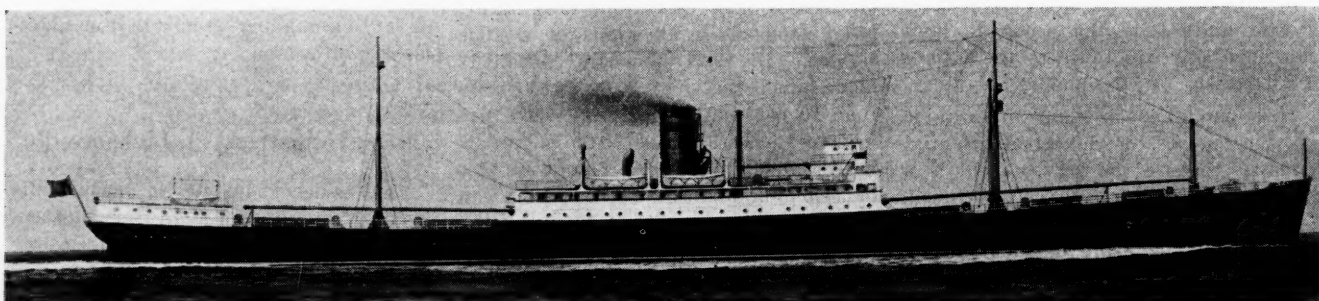
Officers include Donald Symington, president of the Baltimore Trust Company, president; John M. Franklin of the Roosevelt Line, executive vice president; Kermit Roosevelt, president of the Roosevelt Line; Henry E. Treide, and T. Archer Morgan, vice presidents; Iredell W. Iglehart, vice president of the Baltimore Trust Company, treasurer. Direct-

ors include A. J. County, vice president of the Pennsylvania Railroad; John M. Franklin; Henry H. Lee, president of the Pennroad Corporation; George H. Pabst, Jr., treasurer of the Pennsylvania Railroad; W. Frank Roberts, chairman of the board of the Standard Gas Equipment Corporation; Kermit Roosevelt; George H. Shriver, vice president of the Baltimore and Ohio Railroad Company, and Donald Symington.

A fleet of five liners will be operated initially, but under the terms of a mail contract with the Government the company may be called on to build two large 18-knot steamers within the next five years. The first vessel to leave the port of Baltimore will be the "City of Baltimore", the flagship of the fleet, scheduled to sail from the company's newly constructed pier at Canton on July 2. Further tentative sailings are August 6, August 13, September 10, September 17, October 1, October 15 and other dates. All five of the ships will be modern oil burners of about 12,000 tons displacement, 506 feet long and able to maintain a speed of 16 knots, with cabin accommodations for approximately 100 passengers, a large dining salon, smoking and

recreation rooms and a wide promenade. In addition to the "City of Baltimore", the steamers will include the "City of Norfolk", "City of Newport News", "City of Le Havre" and the "City of Hamburg". The ships are being reconditioned at the plant of the Federal Shipbuilding and Dry Dock Company, Kearney, N. J., at a cost of \$1,674,000 each. The cost of constructing and equipping the pier will approximate \$5,000,000.

Initial steps toward organization of the Baltimore Mail Steamship Company were taken in 1928 and details worked out in various conferences between a group of Baltimore financial interests headed by the Baltimore Trust Company, and representatives of the Roosevelt Steamship Company. The latter company played an important part in developing the plans, financing and arranging for actual operation and submitting in its own name bids for the mail contract. The new service will represent the first overseas passenger line to sail from Baltimore since the North German-Lloyd suspended operations during the World War and is expected to further the development of the ports of Baltimore and Hampton Roads.



"City of Baltimore" to Inaugurate Passenger, Mail and Freight Service, Baltimore to Hamburg

Speed \$530,000,000 Federal Building Projects

Washington, D. C.—The House of Representatives has passed the Keyes-Elliott bill, designed to speed the \$530,000,000 Federal construction program, and the measure now goes to the Senate. Under its provisions, the Secretary of the Treasury would be authorized to limit the issuance of plans and specifications to applicants judged financially responsible; limit the time of advertising for bids for building sites, and to obtain surveys of sites without competitive bidding before the title has been

vested in the Government. The Secretary would also be empowered to engage outside technical aid in preparing plans and specifications.

\$1,250,000 Certificates

Jackson, Miss.—The State Bond Commission will offer for sale February 10 bonds and certificates of indebtedness of the State of Mississippi in the amount of \$1,250,000. Work on the new \$5,000,000 hospital for the insane in Rankin County, near Jackson, will be financed with \$500,000 of the bond issue, while the remaining \$750,000 will cover an expected tax shortage.

\$2,000,000 School Program

Galveston, Tex.—Of a \$2,000,000 bond issue voted in the fall for a school building program in this city, \$800,000 will be issued at present. A junior high school building will be erected in the West End at a cost of about \$300,000, for which R. R. Rapp, Galveston, and Gieske & Harris are architects, and a \$200,000 grade school for negroes, for which D. N. McKenzie, Galveston, and Mark Lemmon, Dallas, are architects. About \$100,000 will be expended for repairing existing buildings under the supervision of Andrew Fraser, local architect.

Southern District Freight

IN the accompanying tabulation of sectional freight tonnage is presented the fourth instalment of a survey appearing in the January issue of *Trends and Indications*, a monthly publication of Dorrance, Sullivan & Company, Inc., New York, who have been analyzing the freight statistics of Class 1 steam railroads of the United States in 1929. This table covers the total freight movement for the Pocahontas region and for the Southern region including the following principal individual railroads: Chesapeake & Ohio; Norfolk & Western; Richmond, Fredericksburg & Potomac; Virginian Railway; Atlantic Coast Line System; Columbus & Greenville; Florida East Coast Railway; Georgia & Florida; Gulf, Mobile & Northern; Illinois Central System; New Orleans Great Northern; Norfolk Southern; Seaboard Air Line; Southern System, and Tennessee Central.

In the December issue of *Trends and Indications* it was explained that the total for any railroad system covered only that part of the system which fell within the geographical territory being

covered that month. It was the plan of the Research Department of Dorrance, Sullivan & Company to summarize all railroad systems into their complete totals, regardless of geographical location, after the completion of these sectional analyses now being carried on. In the light of the recent agreement between heads of the principal Eastern railroad systems, this summarization will be extended to show, in so far as possible, the figures for the complete systems as they will exist when the agreement has gone into effect.

Based on the National Forecast of the Regional Shippers' Advisory Boards covering quarterly freight car requirements, Southern freight statistics for 29 principal commodities, as furnished to the car service division of the American Railway Association for the first quarter of 1930 and estimated for the similar period of 1931 have been compiled by the Advisory Board as shown in the accompanying table.

Total freight car requirements of the

United States for the first quarter of 1930 were 6,949,063 carloadings, and estimated carloads for the first quarter of 1931 are 6,568,456, or a decrease compared with 1929 of 5.5 per cent. Out of the 29 major items classified by the Advisory Board, hay, cottonseed, fruits, fresh vegetables, sand and gravel, petroleum, machinery, cement, paper, and chemicals, are estimated to require more freight cars for their handling during the first quarter of 1931.

Neither table under consideration gives a complete statistical review of the whole Southern freight movement, since some of the states' totals are included in other regional divisions. The sectional freight tonnage table quoted omits practically all the Southwestern States, while Maryland, Kentucky, West Virginia, Missouri and part of Arkansas and Oklahoma are omitted from the Shippers' Advisory Board's totals for the Southeast and Southwest territories. Nevertheless, the figures given offer a fair indication of the extent of steam rail freight tonnage in the South.

SECTIONAL FREIGHT TONNAGE, SOUTHERN DISTRICT

General Classification	Freight		Excess Incoming Tonnage	Per Cent of Sectional Freight, by Commodities		Per Cent of National Freight, by Commodities		Per Cent of National Traffic in Southern District	
	Tonnage Out	Shipped In		Originating	Terminating	Originating	Terminating	Originating	Terminating
Agriculture	14,864,875	16,312,450	+ 1,447,575	5.03	8.76	8.63	9.49	12.88	13.20
Animal	1,538,034	2,012,815	+ 474,781	0.62	1.08	1.86	1.97	7.38	7.80
Mineral	204,740,657	98,090,295	- 106,650,362	69.30	52.62	55.10	52.10	28.10	14.40
Forests	29,658,861	22,816,903	- 6,841,958	10.04	12.24	7.09	7.92	31.30	22.10
Manufacture and Miscellaneous	37,283,952	40,066,137	+ 2,782,185	12.61	21.50	24.62	25.76	11.30	11.90
Less than car lots	7,081,709	7,077,320	- 4,389	2.40	3.80	2.70	2.76	19.60	19.70
Total	295,468,088	186,375,920	- 109,092,168	100.00	100.00	100.00	100.00	22.05	14.29

FREIGHT MOVEMENT FIRST QUARTER

Advisory Board Classification Commodity	Southeast Board Territory Carloadings				Southwest Board Territory Carloadings			
	Actual 1930	Estmtd. 1931	Incr. %	Decr. %	Actual 1930	Estmtd. 1931	Incr. %	Decr. %
Grain, All	7,589	7,589	...	...	25,387	22,848	...	10.0
Flour, Meal and Other Mill Products	19,098	19,098	...	...	22,507	20,256	...	10.0
Hay, Straw and Alfalfa	3,496	4,195	20.0	...	5,460	5,031	...	8.0
Cotton	27,478	24,730	...	10.0	18,430	17,509	...	5.0
Cotton Seed and Products, Except Oil	33,081	35,066	6.0	...	17,960	14,368	...	20.0
Citrus Fruits	29,501	27,061	32.0	...	2,610	2,610	...	...
Other Fresh Fruits	5,968	6,445	8.0	...	2,195	2,195	...	...
Potatoes	1,540	1,278	...	17.0	585	585	...	...
Other Fresh Vegetables	12,569	13,951	11.1	...	8,983	8,983	...	...
Live Stock	10,521	9,469	...	10.0	20,546	20,546	...	...
Poultry and Dairy Products	1,311	1,311	...	...	2,276	2,276	...	...
Coal and Coke	107,810	87,326	...	19.0	17,220	14,637	...	15.0
Ore and Concentrates	13,673	13,673	...	...	3,550	3,550	...	...
Gravel, Sand and Stone	63,890	76,668	20.0	...	54,126	48,713	...	10.0
Salt	140	140	...	...	5,097	5,097	...	...
Lumber and Forest Products	250,905	225,815	...	10.0	62,725	56,453	...	10.0
Petroleum and Petroleum Products	50,899	52,935	4.0	...	180,047	171,045	...	5.0
Sugar, Syrup and Molasses	7,770	7,770	...	...	5,466	5,466	...	...
Iron and Steel	24,140	24,140	...	...	4,810	4,810	...	...
Machinery and Boilers	1,635	1,799	10.0	...	859	842	...	2.0
Cement	11,740	11,975	2.0	...	7,913	7,913	...	...
Brick and Clay Products	12,871	12,871	...	...	6,077	6,077	...	...
Lime and Plaster	4,250	4,250	...	...	2,810	2,810	...	...
Agric. Implements and Vehicles, Other than Automobiles	1,150	1,150	...	...	473	426	...	10.0
Automobiles, Trucks and Parts	7,659	7,659	...	...	2,641	2,509	...	5.0
Fertilizers, All Kinds	106,196	99,824	...	6.0	11,921	7,153	...	40.0
Paper, Paper Board and Prepared Roofing	6,859	7,379	7.6	...	1,603	1,603	...	...
Chemicals and Explosives	3,265	3,428	5.0	...	901	901	...	...
Canned Goods—All Canned Food Products (Includes Catsup, Jams, Jellies, Olives, Pickles, Preserves, etc.)	2,263	2,263	...	...	822	806	...	2.0
Total 29 Classifications	820,267	791,258	...	3.5	496,009	458,018	...	7.7

LETTERS FROM OUR READERS

Claims Freight Rate Discrimination Against Kentucky

Commonwealth of Kentucky,
Attorney General's Office.
Frankfort, Ky.

Editor Manufacturers Record:

For the past several years the development of inland Kentucky has been retarded and is almost at a standstill because of high freight rates.

It has been the position of the Commonwealth of Kentucky, and it has repeatedly urged, without much success, that freight rates be leveled and made more uniform, so that each state and community would pay its fair proportion of the revenue necessary to maintain adequate transportation.

Kentucky has realized for a number of years that the incongruities in the rate structure could not be eliminated without both increases and decreases, and this manner of handling the problem has been constantly urged by Kentucky in all general readjustments in which it has participated.

As a part of the general readjustment undertaken by the Interstate Commerce Commission, the railroads will receive very material increases in their freight revenue upon the effective date of the rates found reasonable in the Eastern Class Rate Investigation.

This still leaves the class rates in the State of Kentucky 39 per cent higher than the rates that have been held to be the maximum of reasonableness in Virginia (on and north of the east-and-west line of the Norfolk and Western Railway, from Norfolk to Bristol), West Virginia, Ohio, Indiana, and Illinois.

The carriers serving the territory in question have been given the opportunity to justify these differences in freight rates, and they have completely failed to show that the operating conditions in Kentucky are any less favorable than the operating conditions in southern Illinois, Indiana, Ohio, and West Virginia, and that part of Virginia north of the Norfolk and Western Railway.

The carriers are apparently taking advantage of the present depression in all classes of business (a great part of which has been affected much more than the railroads), and are asking regulating authorities to suspend proceedings where it may be necessary to reduce rates in order to remove undue preference and prejudice as between communities and industries.

They seem quite willing to accept the increases necessary to bring the freight rates which are below a reasonable standard to a reasonable basis; but, they are unwilling to reduce any rates which are unreasonably high, regardless of the fact that the economic conditions of the people are being affected in Ken-

tucky to the extent that the social structure of many communities and even entire sections of Kentucky have been disintegrated.

They also seek protection from the competition of motor trucks and other forms of transportation, and they have at last apparently recognized that these other forms of transportation are making inroads into their revenues. But apparently they ignore the fact that much of this competition has been brought about because of their making freight rates which are unreasonably high.

A recent survey in Kentucky shows that a great portion of the traffic destined to inland Kentucky, originating in the territory north of the Ohio River, is stopped at the northern boundary of Kentucky, because it is cheaper to ship this tonnage to the Ohio River and haul from there by truck to the inland section than it is to pay additional rail freight charges from the Ohio River to the inland destination. This discloses reasonable rates north of the Ohio River and unreasonable extortionate rates in Kentucky.

To date the carriers have failed to recognize this competition. Any material reductions which have occurred have been due to the action of regulating authorities.

The extent to which they are suffering in Kentucky is brought about by their own failure, during the past several years, to make reasonable rates which would move the traffic.

They now ask legislative authority to enable them to meet this competition by permitting them to operate motor trucks to such an extent which, if granted, will put the independent truck lines out of business.

If it is their purpose to do this in order to continue to exact the high levels now existing, it will have the effect in the final analysis of continuing to stifle production in Kentucky and prevent its commerce from moving freely.

The power is within the carriers under the present law to remedy this situation in the greatest measure without appeal to any governmental agency.

While they may encounter some unfair competition from other forms of transportation, we believe the elimination of such unfair competition (if there be any) will not solve the major problem which confronts them.

If they will take the public into their confidence by revealing a full statement of the facts upon which reasonable freight rates should be based (a considerable part of which facts is being withheld by them), and make freight rates which are reasonable and non-discriminatory as between communities and commodities, they will do more to solve their problem than can be done by any governmental agency. But the carriers must recognize that the same efficient management must exist and that the everchanging conditions must be met in railroad business the same as in other lines of business if they are to do their full duty toward their stockholders and the public.

The problem cannot be solved by maintenance of freight rates, such as now

apply to Kentucky, which are so high traffic cannot move freely.

JAMES W. CAMMACK,
Attorney General.

Who Is to Be the Doctor for the Railroads?

HANNAH & SIMRALL,
Attorneys and Counselors
Hattiesburg, Miss.

Editor Manufacturers Record:

I have read with a great deal of interest the communications from Mark W. Potter and L. F. Loree, regarding the problems confronting the railroads. It occurs to me that Mr. Loree has put his finger on the principal troubles.

I am especially interested in what Mr. Loree has to say with reference to the relations between the railroads and the employees. One reason is because I have been wondering for months why the railroads and the employees do not get together and eliminate these burdens that Mr. Loree catalogues, as a matter of self-preservation.

I believe it is universally conceded that the railroads are subjected to much unfair competition by buses and trucks using the highway for common carrier purposes. This question has been the object of much thought and investigation on my part and I have come to the conclusion that there is not going to be any material and lasting relief for the railroads until the burdens enumerated by Mr. Loree have been lifted from the shippers. The law of self-preservation promptly dictates to any individual to ship by truck when the competitive service requires him to pay for 16 services never performed and to pay twice for 29 others.

That the railroads are entitled to relief from unfair competition occasioned by the use of the highways as common carriers is recognized everywhere. On the other hand, it is my firm conviction that the railroads are never going to get relief from this competition until the railroads, in their capacity of common carriers, give the shippers and public relief from the very unfair charges catalogued in your communication.

For years and years, the organized employees of the railroads have made increasing demands through legislation and otherwise and the public has been forced to submit. Apparently, the public has decided to abandon any fight with the railroads and their employees and transfer their shipping business to transportation lines owned by the public and used by unorganized carriers and shippers.

I have no doubt that Mr. Loree has correctly diagnosed the railroads' troubles. But, the question is, who is going to be the doctor to administer the remedy?

T. C. HANNAH.

IRON, STEEL AND METAL MARKET

Seasonal Increase in Steel Production

Pittsburgh, January 26—[Special.]—While the great majority of members of the steel trade appear to be disappointed by the volume of business booked thus far this month, there has been fully as much recovery from the seasonal year-end lull as usually occurs, unless current estimates of the rate of steel mill operations are badly out and that is a practical impossibility. When the official report of steel ingot production in January is issued, early next month, it will show a substantial increase over December production, and in all probability a percentage increase distinctly above the average percentage increase, December to January, of other years.

Disappointment that general business has not so improved as to give steel much more than a mere seasonal increase may be pardoned but it can hardly be justified. The showing of last year was that general business was growing worse up to the end or nearly the end of last year. The trade recession remained in progress. Month by month after August steel production declined. In September and October there should have been seasonal increase instead, and the November and December declines were more than seasonal. It is a big thing for steel to show that it is no longer losing by there being a general business recession, enough to content observers for a month or so. Business ought to be given a little time in which to start the ascent.

Steel ingot production last week was variously estimated at 44 to 47 per cent. Taking 45 per cent to be conservative, that compares with a December average of 38½ per cent, as officially reported. January should average more than 10 per cent (not ten points) above December, which is if anything more than should be expected for a seasonal movement.

On account of natural conservatism of buyers all down the line, moreover, orders will be held back as long as possible, delaying the spring peak of activity. Usually steel production has reached a peak in March, sometimes in April, thereafter declining to a low July. This time the peak will come later. Automobile production, for instance, is being held closely to requirements, whereas in the past most makers forced stocks on their dealers early in the year, well in advance of public buying. Farm implement makers are likewise pursuing

a conservative course and thus far have only slightly increased their steel purchases.

Estimates of the percentage rate of steel production are useful for comparative purposes, one week or one month with another, but they are quite misleading if they are taken as a suggestion of the volume of general business activity, for the reason that the steel industry has rarely operated at even 90 per cent of its capacity, and capacity has been increasing year by year while much work is now in progress. No one will deny that 1928 was a very good year in general business, yet that year's steel production would be only 74 per cent of present steel making capacity plus capacity soon to be brought in.

An astonishing amount of work is being figured on involving structural steel, but just what this may mean is another matter. In the last three or four months the amount of fabricated structural steel work coming out for bids has greatly exceeded the contracts actually let, although they have been at a fair rate. There may later be a rush of placing contracts or it may turn out that some work that developed could not be financed. Somewhat the same condition exists as to line pipe, chiefly for natural gas. Several hundred thousand tons of pipe has been figured on in the last couple of months but the projects have not come to a head. Orders lately reported include 80,000 tons, really unfinished business as it applies to the Texas to Chicago line begun last year, and some 35,000 tons for a new line.

Finished steel prices are holding firmly all along the line. The market has been steady or stabilized since the middle of December and in some quarters it was expected such a condition would stimulate buying.

Steadiness in the Metals— Increased Sales of Copper for Export

New York, January 26—[Special.]—The metal markets are quiet but steady for the most part. Export sales of copper have been the feature, being the best sustained and for the largest daily totals bought since November. On Monday of the past week export sales of 3500 tons were made, the largest in a day since the world curtailment conference was completed in November.

Prices have been the most uniformly

steady and unchanged in several months. Probably this steadiness in itself is a very encouraging sign, despite the fact that price levels are very low. Lead prices are bottom since 1921; zinc is but \$1 per ton above the low of 1930; copper is ½c per pound above the 1930 low which in turn was the valley point since 1896; tin fluctuates around the 26-cent mark as a pivot; silver changes mostly between 29 and 30 cents per ounce.

Industrial conditions are improving and therein lies hope for better consumption of the metals. James A. Farrell, president of the United States Steel Corporation, stated in a speech at Chicago last week that the turn for the better took place a month ago. That is the time at which the observations were made in these columns that many small but idle plants, consuming or producing metals and located in widely scattered districts, were resuming operations.

There has been a marked improvement in the demand for machine tools and machinery, which is also an almost certain indicator that industrial activity is expanding. Operations of the steel industry have advanced to 47 per cent of capacity and though the improvement is more gradual than at the start of the year, the trend is still in the right direction. Public building work promises to use considerable tonnages of metals. The long-talked-of governmental projects are at last coming to a head.

The minor metals have been quiet along with major metals. Antimony is a shade weaker in price at 7¾c to 7½c per pound, duty paid. Quicksilver has a rather weak undertone at \$105 to \$106 per flask of 76 pounds. During the week the price of silver has been as high as 30c per ounce and as low as 28¾c, the latter price being within ¼c of the bottom price in history.

Automobile production improves slowly. Sellers of copper in the Lake Superior district report that copper sales to Detroit are improving but that they are far below normal for this time of year. Though production of automobiles may be far below average this year, one consoling fact is that a greater proportion of non-ferrous metals is used than ever before in car construction, particularly for decorative effects, such as radiator shells, larger headlamps, outside horns, hardware, engine ventilators, etc.

Copper Exporters, Inc., have put into effect a somewhat radical change in quoting prices. They have left the price unchanged at 10.30c c. i. f. European ports for shipment during January and February. However, for future months

a premium of 5 points per month has been charged. Thus March sells at 10.35c and April at 10.40c. The purpose of this was to encourage purchases for prompt shipment. There is also an implication that copper prices will be higher when those months arrive.

The domestic price of 10c for copper was given thorough recognition when leading brass makers and manufacturers of copper products, such as sheets and tubing, reduced prices of their products to conform to that figure for refined metal.

American copper producers expect fair consumption of copper in Europe over the next few months. Germany and Sweden are going ahead with extensive electrification programs. England imported during the first 10 months of last year within 6000 tons of the copper brought in during the corresponding period of 1929.

Four tin producing countries are near agreement not only to regulate exports but also to cut down production so they will not have large surpluses of unexported tin. However, the news has had no effect as yet on tin prices which hover around 26 cents per pound, a more or less stabilized level for several weeks.

Lead statistics for December revealed surplus stocks of over 100,000 tons, or the largest in several years. Stocks had increased about 13,000 tons during December, while for the year the gain was 100 per cent. Mine production in December, however, was unchanged and trends are in the right direction. Demand for lead is very quiet, with only carload lots being called for. Prices are unchanged at 4.75c, New York, and 4.55c, East St. Louis.

The zinc market is very quiet at around 4c per pound for prompt shipment. For March and April delivery 4.05c is usually charged. The price of ore has been unchanged for several weeks at \$26 per ton.

Late in the week second hands were offering copper at slightly under 10 cents.

Further Improvement Noted in Birmingham District

Birmingham, Ala., January 26—[Special.]—A gradual improvement in pig iron and steel as well as in other products, cement, for instance, is under way in the Birmingham district. Sales of iron are in small lots with an occasional order out of the ordinary and the aggregate is becoming more satisfactory though not sensational. Production is being held to a minimum and expectations are that some tonnage will come from the surplus stock. In the mean-

time, blast furnace repairing, relining and other work is under way.

Home base price continues at \$14, No. 2 foundry, and rather firm. A few sales, small lots, are still reported from the East and the Middle West. Total due melters in those sections is of some proportions. The probable make of the first quarter is being sold rapidly.

Republic Steel Corporation will have its furnace relined within another two weeks and will blow it in so that the furnace now in operation can have some attention. Surplus iron with this corporation is moving steadily and there will be warrant for active operation of both furnaces in April. Sloss-Sheffield Steel & Iron Company has two blast furnaces making iron and the two North Birmingham iron-makers in shape for operation. The company has quite a little surplus stock and will not be in a hurry to increase the make for the time being. Woodward Iron Company also has some surplus with two blast furnaces in operation. This company can deliver both sand and machine-cast pig iron, the new machine-casting apparatus assuming shape. Gulf States Steel Company recently sold some foundry iron on the open market.

Cast iron pipe shows steadiness and new lettings have been reported with specifications in sight for considerable tonnage. Shops here are in splendid shape. These interests are asking blast furnace companies for steady delivery on product. The basic iron make has been increased some recently, the Steel Corporation having 11 open hearth furnaces now producing ingots and the Gulf States Steel three.

Rail and other shapes of steel are in better demand. Southern Railway order for 30,655 tons of various sizes of rail to be rolled at the Ensley mills of the Tennessee Coal, Iron & Railroad Company, adds materially to the backlog at this plant and will make possible operations for six months and longer on the present schedule. The Southern Railway also gave order for 4445 tons of rail to the Bethlehem Steel Company.

Structural steel and other shapes are in good demand, with several shops now on the six-days a week schedule. Ingalls Iron Works Co. will add about 100 men to the inside and outside forces during the next 30 days, having added well to its order books recently. Virginia Bridge & Iron Company has taken orders for highway and railroad bridges in Kentucky, Tennessee and elsewhere in addition to other fabricated steel shapes and is keeping its regular forces busy.

Coal production is offering but little promise of improvement. The coke market is a little improved with shipments steady, though production is kept down.

The scrap iron and steel market is

still quiet though sales of 1000 tons and two and three carloads of various materials at a time are reported.

Portland cement producers are still anticipating better demand as road building is taken up in the South, the Louisiana requirements alone on developments including roads being estimated at 8,500,000 barrels. Alabama is getting ready on its estimates also.

PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$14.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$14.50; iron of 2.75 to 3.25 per cent silicon, \$15.00; iron of 3.25 to 3.75 per cent silicon, \$15.50.

OLD MATERIAL

Steel rails	\$11.00 to \$12.00
Steel axles	14.00 to 14.50
Iron axles	14.50 to 15.00
Heavy melting steel.....	9.50 to 11.00
No. 1 cast.....	10.00 to 10.50
Stove plate	8.50 to 9.50
No. 1 railroad wrought.....	9.50 to 10.00
Car wheels	10.00 to 11.00
Tramcar wheels	10.50 to 11.50
Machine turnings	7.50 to 8.00
Cast-iron borings	7.50 to 8.00
Cast-iron borings (chem.).....	12.50 to 13.00
Rolls for re-rolling.....	11.25 to 11.75

Steel Orders Help Employment Situation

Birmingham, Ala.—Orders booked by the Ingalls Iron Works Co., Birmingham, for a large portion of the structural steel to be used in the new \$5,000,000 Louisiana state capitol at Baton Rouge, will mean the employment of more than 100 additional men at the Birmingham plant. The order was received through the Lukens Steel Co., New Orleans, and calls for more than 4000 tons, contract specifying prompt delivery. The George A. Fuller Co., New York and Washington, general contractor for the capitol, awarded steel contract to the Lukens company, which sublet the major part to the Ingalls company. The latter will fabricate the steel at both its Birmingham and Pittsburgh plants and when work begins employment will be provided, it is said, at the Lukens plant in New Orleans and the Ingalls plant at Pittsburgh for nearly 200 additional men. Orders were recently placed with the Ingalls company for five steel barges for the Inland Waterways Corp., Washington, for use on the Mississippi and Warrior rivers, and it is understood that the Ingalls company will also fabricate steel for five other barges to be built by the Alabama Drydock & Shipbuilding Co., Mobile, Ala., where the assembling of the entire ten barges will be completed. The latter, with the Todd Shipbuilding & Drydock Co., Inc., also of Mobile, has been awarded contract to recondition 12 tankers for the Mallory company. In addition to the Ingalls orders already mentioned, the company will fabricate 850 tons of steel for Rutgers University, New Brunswick, N. J., and 500 tons for a high school building at Cleveland, Ohio.

HIGHWAYS AND MOTOR TRANSPORT

\$625,000 State-Owned Toll Bridge Completed

A STATE-OWNED and operated toll bridge over the White River on Route 64, between Augusta and Baldknob, Ark., built at an expenditure of approximately \$625,000, was recently completed. The main structure consists of a cantilever steel span providing a clear opening of 400 feet between the two main piers and two anchor spans, 120 feet each. The main span is made up of two 120-foot cantilever arms and a 160-foot suspended span. A vertical clearance of 47.2 feet for a horizontal chord of 125 feet is provided above high water. The east approach consists of 32 forty-foot concrete deck girder spans and the west approach is made up of 19 forty-foot and two 80-foot spans. The end of each is flanked by a 30-foot cantilever retaining wall and both are on a four per cent grade with the exception of a horizontal portion of 500 feet on the east end.

The river piers were sunk by the pneumatic process and anchor piers were put in by open cofferdam and supported on timber piling. The main steel span was cantilevered out from the main piers and closure was made at mid-panel of the suspended span.

Approach spans are of the two-girder type, with girders spaced 18 feet, carrying a two-way, reinforced slab of 20-foot sections, providing a 24-foot roadway. The slab and girders of the 40-foot spans were poured monolithically and continuously for three spans and the 80-foot spans for two spans, split columns being utilized at the end of each section to provide for expansion.

On account of the varying and extreme height of the approach, the maximum height of crown of roadway above ground surface being 65 feet, a novel arrangement of supporting the form work on 24-inch, 79.9-pound I-beams, 39 feet, 9 inches long, was utilized. Two beams were used to support the soffit plates of each 40-foot girder. The ends of the beams were rested on cast iron brackets attached to opposite sides of the columns by two-inch steel shaft resting in a section of pipe encased in the column at a point three feet, six inches below the bottom of girder. Columns were previously poured to a point three feet below bottom of girder. Hardwood wedges, long enough to rest on both beams, were used to adjust the soffit

plates for camber. Forms for the deck were supported by two by ten joists with the ends resting on the tops of the girder inside form and supported at the third points by longitudinal two by six timber trusses, which were in turn supported by transverse six by eight hog trusses resting on the flanges of the beams. Practically the same form system was used for the 80-foot spans. I-beams were used with one end resting on the

brackets as before and a timber bent of false work was placed several feet from the other end. This was the only point at which the waterway was temporarily obstructed.

The substructure for the main span was built by the Missouri Valley Bridge & Iron Co., P. K. Bunn, Superintendent, Leavenworth, Kans. Steel for this span was fabricated by the Virginia Bridge & Iron Co., Roanoke, Va. Approach spans were erected by Parkham Construction Co., E. O. Alexander, Superintendent, East St. Louis, Ill. Ira G. Hedrick, Inc., Hot Springs National Park, Ark., consulting engineers, were designers and supervisors of construction, with E. B. Stokes, resident engineer.

Texas Plans Highway Financing for 10-Year Period

Austin, Tex.—Submitting its biennial report to the Legislature, the State Highway Commission calls attention to the necessity of stabilizing the income of the highway department over a period of not less than 10 years and urged an adjustment with the counties of moneys expended from ad valorem taxes on state highways. The Commission recommends that highways of the state be financed in the next 10 years by a combination bond issue and "pay as you go" plan, the bond issue to be retired by a motor fuel tax and not to exceed \$200,000,000 at any one time. This would be used to repay the counties or to assume the payment of outstanding bonds for funds expended on state highways since the creation of the highway commission, and for use also as an initial construction supplement. By the time a plan of this character could be put in effect, it is estimated that the counties would have expended from \$85,000,000 to \$90,000,000, and with a bond issue such as is proposed the counties could be repaid and the present highway system, with

some additions, could be constructed within 10 years, the total expenditure during that period being estimated between \$425,000,000 and \$475,000,000, depending upon a normal increase in revenue.

At the time of the report, it was estimated that the counties of the state had an unexpended sum of \$31,000,000 voted for highway construction, and as an additional reason for stabilizing the income of the department, it was pointed out that Federal aid is coming to the state in increasing amounts to be matched by state funds. The report also recommends the construction of an office building for the highway department and the passage of a drivers' license law, suggesting that income from a drivers' license tax be applied to the purchase of state parks. Attention is also called to the necessity of providing by law a basis of co-operation and method of procedure between the state or subdivisions of the state and the railroads or electric line companies for grade separation at crossings. The commission also recommends that the Legislature fix by law a minimum scale of wages for labor on highway contracts of not less than 30 cents per hour.

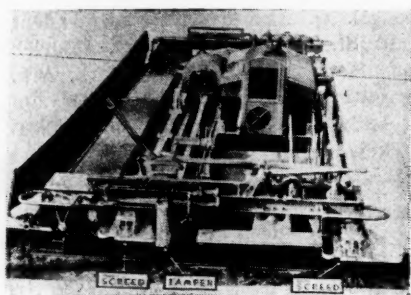


A Reinforced Concrete Viaduct in Mississippi

NEW AND IMPROVED EQUIPMENT

Road Finishers for Lean Mixes

The Blaw-Knox Company, Pittsburgh, Pa., manufacturers of steel products, including contractors' equipment, announce a new development in Ord road finishers of interest to road contractors, especially in states which favor leaner mixes for concrete pavement construction. When dry, stiff concrete is used and tamping is permitted or specified,



Showing Front and Rear Screeds
With Tamper

the Ord can be furnished with a tamper without sacrificing the double screed principle. It may be furnished with a single screed, double screed, single screed and tamper, or with double screed and tamper.

Capstan Type Car Puller

The Weller capstan car puller, manufactured in an improved design by the Webster and Weller MFG. Companies, Chicago, Ill., is now available. This car pulling unit is regularly built in three sizes to handle from one to six 80-ton



Pulls Cars at Any Angle

cars; is electrically operated; self contained and designed to pull cars, trucks, etc., at any angle. It is built for year-round service, is compact, and is described as economically and easily operated, having push button control.

Pump Governor and Control

Valve

Two new valves—a boiler feed pump governor and a control valve—are announced by the Bailey Meter Company, Cleveland, Ohio. Distinctive features are incorporated in both valves, it is said, the former being designed primarily for use with turbine driven pumps. The governor is installed in the steam

line to the turbine and controls the differential pressure by throttling the steam supply. The valve is of tight seating, fully balanced design and may be set for any desired differential. Control valve, designated as style K, is designed for use with Bailey automatic control systems and may be used with practically any fluid. The V-ports are designed to give straight line flow characteristic, while a fully balanced valve, with valve cage and discs removable, is another feature.

An Automatic Dump and a Road Maintainer

Two new products of the Shunk Mfg. Co., Bucyrus, Ohio, shown for the first time at the recent St. Louis Road Show, are designated as the Camel automatic gravity tractor dump and the Success multiple blade road maintainer. The dump is of rugged, simple construction with a capacity of 4 or 5 yards, and combines in one unit, it is said, profit-earning features of truck, tractor, trailer and bulldozer. It is specially adapted to earth-moving operations, such as road construction, dams, levees, grading, etc., all excavating and loading being done with power shovels or excavating graders. The nose may be converted into a bulldozer designed to grade, level and backfill. With a liberal drawbar capacity which is taken off the heavy auxiliary axle, the unit is gear-driven and all models are adaptable to an interchangeability of wheel equipment, while steering mechanism is designed for mobility and ease of handling. The body is of scow design for clean dumping with minimum effort and the power unit is a McCormick-Deering 10-20 tractor.

The Success twin dual road maintainer was first patented and introduced in 1925 by the Success Road Machine Company, Jacksonville, Ill., recently pur-

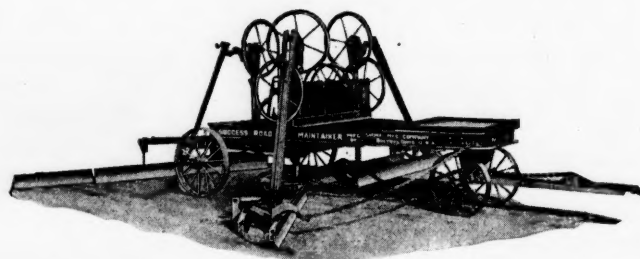
chased by the Shunk Mfg. Co., which has made refinements and improvements and is now marketing the machine through its sales organization. The maintainer is a multiple blade machine, sturdily built, with a frame of 6-inch channel steel, braced and riveted. A three-point draft draw puts the pull low down near the center of the blades, and as it is of light draft, a 15-30 H. P. tractor is said to be ample for operation, although a safety pin feature is pro-



Camel Dump for Earth Moving

vided for use of greater power when desired. Each set of dual blades is separately controlled by three large hand wheels, and a roomy platform gives the operator free access to all adjustments. Blades are double-edged and extra wide, made of high carbon steel, and are reversible and interchangeable to all positions on the machine.

"Success"
Maintainer
Showing
Multiple
Blades
Separately
Controlled



CONSTRUCTION DEPARTMENT and NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

Airports, Airplane Plants, Etc.

D. C., Washington—Aeronautics Branch, Department of Commerce, Washington, D. C., let following contracts, totaling \$89,991: Establishing electric airway beacon lights, on El Paso-Fort Worth section of El Paso-Fort Worth airways, John J. Sheedy & Co., Cheyenne, Wyo.; installation of airway beacon lights, electric code beacons and boundary lighting systems at 4 Dept. of Commerce intermediate fields on Big Springs-Fort Worth section of El Paso-Fort Worth Airways, I. Watson & Sons, Opelika, Ala.; 100 fuel storage tanks, Novelty Steam Boiler Works Co., 2031 Clare St., Baltimore, Md.

Ky., Louisville—John Paul Riddle, V. P. and Gen. Mgr. of Embry-Riddle Co., subsidiary of Aviation Corp., Lunken Airport, Cincinnati, O., lately noted acquiring operating control of airmail and passenger lines of Continental Air Lines, Inc., proposes extension of Continental system south from Louisville through Nashville, Memphis, Little Rock, Texarkana to Dallas, Tex.; would connect with southern transcontinental system of American Airways at Dallas. 1-22

Mo., Kansas City—National Air Transport, 5936 S. Cicero Ave., Chicago, contemplates erecting \$70,000 hangar and shop unit, municipal airport.

S. C., Greenwood—City, reported, plans establishing airport.

Tenn., Dyersburg—City, reported, started work on constructing airport; runways surveyed, etc.

Tex., Mineola—City, reported, plans establishing airport.

Va., Glade Springs—Huff Flying Service, Inc., capital \$50,000, chartered; I. H. Huff.

Va., Richmond—Dir. of Supplies, Dept. of Commerce, Washington, D. C., receives bids Feb. 10 for placing beacon lights on Richmond-Florence, S. C., portion of Richmond Jacksonville airway.

Bridges, Culverts and Viaducts

Proposed Construction

Arkansas—State Highway Comsn. let contracts for 4 bridge projects. See Roads, Streets and Paving.

Fla., Ocala—State Road Dept., Robt. W. Bentley, Chmn., Tallahassee, soon ask bids for overpass at Seaboard Line crossing, Tenth St.

Georgia—State Highway Bd. receives bids for 18 bridges. See Roads, Streets and Paving.

Kentucky—State Highway Comsn., H. D. Palmore, Engr., Frankfort, opens bids Feb. 18 for improving Clarke River bridge, including 2 126-ft. and 160-ft. steel truss spans, 60-ft. I-beam and conc. piers, abutments, F. A. 207-AB.

La., Tallulah—See Roads, Streets and Paving.

Md., Baltimore—Public Improvement Comsn. voted to set aside \$500,000 from park development fund for building bridge over Colgate Creek; H. F. Lucke, Jr., City Bridge Engr.

Mississippi—State Highway Dept., C. Simmons, Bridge Engr., Jackson, advises plans

are being drawn for steel bridge over Butta-hatchie River north of Columbus, U. S. Highway 45; probably will be advertised for letting within 3 weeks; includes relief bridge and roadway embankment, cost \$55,000. 1-22

Miss., Lexington—Holmes County Supvrs. open bids Feb. 2 for 3 bridges: 2 pile bridges, Howard road, 105 and 90 ft. long; bridge on Tchula and Ancona road, 90 ft. long.

Miss., Magnolia—Pike County Supvrs., Chas. E. Brumfield, Clk., opens bids Feb. 2 for 2 bridges; also for rebuilding Hilary Quin bridge.

Mo., Boonville—Missouri-Kansas-Texas Lines, F. Ringer, Ch. Engr., St. Louis, opens bids Feb. 16 for fabricating and erecting superstructure for bridge over Missouri River. 1-1

Mo., St. Louis—Bd. of Public Service, E. R. Kinsey, Pres., has preliminary plans in progress for \$60,000 bridge, Riverview Dr., Moline Creek; rein. conc., 3 spans 80 ft. long.

North Carolina—State Highway Comsn., J. D. Waldrop, Engr., Raleigh, applied to War Dept., Washington, for permission to build bridge over Tar River, Tarboro, Edgecomb County.

North Carolina—State Highway Comsn., John D. Waldrop, Engr., Raleigh, plans 1500-ft. steel, conc. bridge over Yadkin River, near Elkin, \$180,000.

Oklahoma—State Highway Comsn. receives bids for 10 bridge projects. See Roads, Streets and Paving.

Tennessee—State Dept. of Highways and Public Works build 3 bridges. See Roads, Streets and Paving.

Tenn., Nashville—Louisville & Nashville R. R. Co., W. H. Courtenay, Ch. Engr., Nashville, soon take bids for bridge over Cumberland River, First Ave.; American Bridge Co., 71 Broadway, New York, has contract for steel.

Tenn., Nashville—Louisville & Nashville R. R. Co., W. H. Courtenay, Ch. Engr., Nashville, soon take bid for bridge over Eighth Ave., South; 50-ft. steel span to allow widening of Eighth Ave. 15 ft.; city to share cost.

Texas—State Highway Comsn. let contracts for 11 bridges. See Roads, Streets and Paving.

Tex., Beaumont—Southern Pacific Ry. Co., G. W. Boschke, Ch. Engr., San Francisco, Calif., plans \$162,000 bridge over Intracoastal Canal, Jefferson County.

Tex., Houston—Harris County, Charles R. Haile, County Engr., completed plans for bridge, road and ferry, Pelly to Morgans Point, costing \$270,000; trestle 4547 ft. long, 17 ft. above mean low tide; creosoted timber with metal fire break about every 500 or 600 ft., conc. capped timber piling, steel I-beams, decking of conc. or asphalt surfacing on creosoted plank floor, \$160,000; road approx. 1 mi., \$50,000; ferry 1500 ft., stile 9 ft. deep, 150 ft. wide to be cut at both ends of route, boat to transport 25 to 28 cars.

Tex., Houston—City, W. E. Monteith, Mayor, opens bids Feb. 18 for rein. conc. bridge, McKee St. over Buffalo Bayou.

Tex., Houston—Harris County Comms. Court, Rollin H. Spencer, County Judge, opens bids Feb. 9 for 2 bridges: Morgan's

Point causeway, costing approx. \$160,000; bridge over Brays Bayou, Main St. Loop road, \$30,000.

Virginia—State Dept. of Highways receives bids for 3 bridges. See Roads, Streets and Paving.

West Virginia—State Road Comsn. has low bids for 9 bridges. See Roads, Streets and Paving.

Contracts Awarded

Ala., Birmingham—See Roads, Streets and Paving.

Louisiana—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, let contract to Littrell Construction Co., 6401 Milne St., New Orleans, at \$79,488, for Boeuf River bridge and 6 other bridges, Oak Grove-Mer Rouge Highway. 1-15

Texas—See Roads, Streets and Paving.

Virginia—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, let contract to Fredericksburg Bridge Co., Fredericksburg, Va., for steel, conc. bridge over Tetare Creek near Lawrenceville, Brunswick County.

Canning and Packing Plants

Okl., Okmulgee—J. L. Crocker, 3011 Main St., Joplin, Mo., reported, interested in \$50,000 fruit packing plant.

Clayworking Plants

Ga., Dry Branch—Georgia Kaolin Co. filed petition with Bibb Superior Court for permission to increase capital from \$500,000 to \$1,000,000; E. J. Grassman, Elizabeth, N. J., Pres.; E. Y. Mallary, Macon, Vice-Pres. and Gen. Mgr.

Coal Mines and Coke Ovens

Mo., Huntsville—Regarding report on development of 2000-acre coal lands near Huntsville, Grant Stauffer, of Sinclair Coal Co., 1912 Baltimore Ave., Kansas City, advises hope to start construction of plant at Huntsville within next 90 days; L. R. Kelce, 309 Public Service Bldg., Tulsa, Okla., Vice-Pres. and Gen. Mgr. in charge of engineering and operation. 1-8

Concrete and Cement Plants

Mississippi—Mississippi Portland Cement Co., Canal Bank Bldg., New Orleans, La., B. R. Alford, in charge of engineering, are not going forward at present time with plans for erection of \$1,500,000 cement manufacturing plant; lately reported considering sites at Jackson and Macon. 9-11

Cotton Compresses and Gins

Tex., Houston—Latta Forwarding Co., capital \$50,000, chartered; J. D. Latta, Cotton Exch. Bldg.

Tex., Lubbock—Lubbock Elevator and Warehouse Co. incorporated; S. E. Cone, J. H. Williams.

Drainage, Dredging and Irrigation

Ala., Birmingham—City, A. J. Hawkins, City Engr., has low bid from Ward Hayes

Construction Co., Mound City, Ill., at \$138,555, for widening, straightening Sec. 3, Village Creek. 12-25-30

Fla., St. Petersburg—U. S. Engr. Office, Jacksonville, let contract to Clark Dredging Co., 257 S. W. North River Dr., Miami, at \$53,000, for dredging channel approach to Port of St. Petersburg. 1-22

Florida—U. S. Engr. Office, Montgomery, Ala., has low bid from W. Horace Williams Co., Inc., 833 Howard Ave., New Orleans, La., at \$7200 for dredging in Choctawhatchee Bay. 1-22

La., New Orleans—U. S. Engr. Office, First New Orleans Dist., Poland and Dauphine St., let contract to Huth Construction Co., Franklin, at \$18,200 cu. yd., for maintenance dredging 130,000 cu. yd., Dupre Cut, Barataria Bay. 1-22

Louisiana—U. S. Engr. Office, 4400 Dauphine St., has low bid from Wm. T. Burton, Sulphur, at 16.75 cents per cu. yd. for 70,000 cu. yd. dredging, place measurement, through bar at lower end of Calcasieu Lake. 1-22

North Carolina—U. S. Engr. Office, Wilmington, let contract to Lukens Dredging & Contracting Corp., Snow Bldg., Baltimore, Md., at \$112,662, for 569,000 cu. yd. dredging, Pamlico River. 1-1

North Carolina—U. S. Engr. Office, Wilmington, opens bids Feb. 10 for dredging approx. 10,383,313 cu. yd., Cape Fear River to Little River portion of Intracoastal Waterway, Cape Fear River, N. C., to St. Johns River, Fla. 1-22

Tex., Brownwood—Brown County Water Improvement Dist. No. 1, D. W. Ross, Engr., probably open bids about midsummer for canal in connection with reservoir now under construction; to be lined with Gunite throughout entire length; following letting of this contract bids will be asked for pipe lines to distribute water for irrigating about 10,000 acres; water will be pumped from canal into distributing system, as well as to present distributing system of city of Brownwood; details of pumping system now being worked out and bids for pumping equipment will probably be asked latter part of 1931. 1-18

Tex., Corpus Christi—U. S. Engr. Office, Galveston, has low bid from Standard Dredging Co., Woolworth Bldg., New York, at 8.45 cents per cu. yd. for dredging approx. 5,000-600 cu. yd., Corpus Christi Channel. 1-15

Tex., Houston—Parker Bros. & Co., Inc., applied to U. S. Engr. Office, Galveston, for permission to dredge slip in upper channel, Arkansas Bend, 60 ft. wide, 400 ft. long and 10 ft. deep below mean low tide; plans constructing steel sheet pile bulkhead along shore side; construct steel frame for overhead traveling crane adjoining slip. 1-15

Virginia—U. S. Engr. Office, Wilmington, Del., has bid of .75 cents per cu. yd., place measurement, from Hannaman-Burroughs Co., Salisbury, Md., for dredging approx. 15,000 cu. yd. material from Little Machipongo River. 1-15

Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Alabama—Alabama Power Co., J. M. Barry, Vice-Pres., in charge of operation, expend \$5,000,000 for extensions in 1931; program involves number of moderately sized projects, including construction and extension of several 44,000-volt lines, enlargement and improvement of a number of 44,000-volt substations; extension of distribution system to connect with new and existing consumers; extensions of existing rural lines and construction of new rural lines; improvements to various 110-kv. substations; additions and improvements to company's communication system; improvements to office building; improvements to electric railway properties; purchase of new transportation facilities; completion of projects under construction at close of 1930. 1-15

Kentucky—Robt. H. McNeill, National Press Bldg., Washington, D. C., authorized by Tennessee Railroad and Public Utilities Comsn., Nashville, Tenn., to make preliminary survey for ultimate construction of dam and hydro-electric power plant on Tennessee River at Aurora Landing; plan expenditure of \$40,000,000. 11-27

La., New Orleans—New Orleans Public Service, Inc., reported, plans expending \$1,830,445 on construction work in 1931; about \$500,000 will be expended in distribution de-

partments; \$80,000 for underground system; \$13,000 for extension of lines for sewerage and water board; \$45,000 for transformers, etc.

La., Opelousas—City receives bids Feb. 10 for improvements at municipal electric light plant; include furnishing and installing 950 to 1000-h.p. vertical, multi-cylinder Diesel engine, motor operated governor, station piping, air filter with piping centrifugal and direct connected alternator and exciter; for one combination generator and exciter switch-board panel. 1-22

Md., Conowingo—Conowingo Electric Light and Power Co., and Northern Maryland Power Co., reported, consolidated as Conowingo Power Co. 1-22

Md., Salisbury—Eastern Shore Public Service Co., Salisbury, C. N. Davis, Supt. of Construction, contemplating major construction projects. 1-22

Okla., Cushing—City, reported, begin work in Feb. on light and power plant; install machinery; cost \$280,000. 1-22

Okla., Oklahoma City—Oklahoma Gas & Electric Co., J. F. Owens, V. P. and Gen. Mgr., plans following work in 1931; major portion of work to be started this month: 20 miles of 66,000 volt transmission line will be constructed from Spiro, Okla., to Fort Smith, Ark.; 10 miles of 66,000 volt line from Reno street switching station near Oklahoma City to Moore and rebuilding high voltage line from Moore to Norman; enlargement and installations of new equipment in about 40 substations throughout the state including those in Oklahoma City, Muskogee, Shawnee, Enid, Alva, Medford, Greenfield, Bethany, Bristow, Garber, Morrison, and building entirely new substations in Oklahoma City, Shawnee and Enid; increase main sub-station in Muskogee, from 2300 volts to 400 volts and spare transformers and switching equipment installed; erect operators' home and office at Chandler sub-station; purchase 5 railway cars for Lincoln-Beerbower generating station at White Eagle; in Oklahoma City, 4000 volt feeder lines will be built from Capitol Hill, Olie St., 24th St. and Eastern Ave. substations and new switching and regulating equipment installed in business area, and additional 13,000 volt feeder line will be built from Broadway and Noble St. sub-stations to connect with existing underground system in down town section. 10-9

Okla., Pawhuska—City, S. P. Malone, Engr., reported, install 600 h. p. Diesel engine; cost \$50,000. 1-15

Okla., Vinita—Independent Power & Light Co., Charles W. Mason, Nowata, reported, negotiating for light franchise. 1-15

S. C., Aiken—P. M. Pope, 111 W. Ashley St., and associates, Jacksonville, Fla., reported, interested in erection of power and light plant and distribution system; cost \$500,000. 10-9

Tenn.-Va.-Bristol—East Tennessee Light & Power Co., advises that \$20,000 is approximate budget for 1931, to include rural line extensions; miscellaneous small line extensions; major extensions and rebuilding city distribution systems, etc. 1-15

Tex., Abilene—West Texas Utilities Co. plans construction program, including enlargement of San Angelo building, extensions of power lines from Sterling City to serve rural customers and a 22,000-volt line at Robert Lee to serve water works system there; extend distribution systems at Altman and Newlin. 1-15

Tex., Eagle Pass—Harza Engineering Co., Designing Engrs., 20 N. Wacker Drive, Chicago, Ill., in charge of work for Central Power and Light Co., San Antonio, on hydro electric project on irrigation canal, adjacent to Rio Grande River; complete plans and specifications now being drawn; preliminary survey work started and actual construction work expected to get under way by June, plant to be in operation by 1932; hydro electric plant will have a maximum capacity of 10,000 h. p. and will have installed in it either 2 or 3 units; in order to transmit the power generated at plant into the transmission system, a transmission line of approximately 70 miles long is being constructed from Asherton to site of plant. 1-131

Virginia—American Gas and Electric Co., 30 Church St., New York, advises that company plans usual expenditures in 1931 for primary and secondary lines to take care of new business; and these throughout the territories the company serves may amount to \$8,000,000; at this time no major projects scheduled for beginning soon; have authorization for 2 hydro electric power plant developments in Virginia and West Virginia. 1-15

Flour, Feed and Meal Mills

Tex., Dalhart—A. J. Mayfield, Amarillo, and associates erect \$25,000 sweet feed grinding and mixing mill and 25,000-bushel capac-

ity elevator; include 30x70-ft. steel warehouse; molasses mixing unit to have capacity of 60,000 to 80,000 pounds daily. 1-22

Tex., Hereford—Community Mills, H. M. Packard, owner, erecting building for new unit of flour and feed milling plant; 36x48 ft., 2 stories and basement. 1-22

Foundry and Machine Plants

Ala., Talladega—H. A. Newbury, New York, acquired J. & B. Foundry; Thomas C. Flinn, Constl. Engr., will manufacture castings initially; later will equip for manufacture of all types of plumbers' and steam pipe fittings. 1-22

Garages and Filling Stations

Fla., Jacksonville—Henry A. McClellan, Inc., chartered; H. A. McClellan, 12 E. State St. 1-22

Fla., Tampa—Florida Auto Renters, Inc., chartered; R. S. Evans, 26 Agean St. 1-22

Fla., Winter Haven—Pickett Tire Service, Inc., capital \$10,000, chartered; H. E. Cornell, A. W. Kelso, W. F. Pickett. 1-22

Ga., Atlanta—Following contractors estimating on construction of master service station Peachtree and Baker Sts. for Goodrich Silvertown, Inc., 501 Stewart Ave., S. W., bids opened Feb. 10: A. K. Adams & Co., 542 Plum Sts., N. W.; Gilbert Beers, J. S. McCauley & Co., both Bona Allen Bldg.; Griffin Construction Co., 452 Spring St., N. W.; Barge-Thompson Co., 136 Ellis St., N. E.; W. P. Francis, 201 Luckie St., N. W.; Capitol Construction Co., Standard Bldg.; Brazell, Miller & Newbanks, Norris Bldg.; Straiton Hard, 281½ Peachtree St., N. E.; Joe Walker, Grant Bldg., all Atlanta; Smallman Construction Co., 1109 Fifth Ave., S., Birmingham, Ala.; Austin Co., 16112 Euclid Ave., Cleveland, O. 1-22

Ga., Atlanta—Standard Oil Co., 746 Marietta St., N. W., has low bid from C. H. Pittman, 2530 Boulevard Dr., for filling station, Buckhead; brick, conc., comp. roof. 1-22

Mo., St. Louis—Acme Automotive Co. incorporated; R. Hagerling, 3440a Ohio St. 1-22

Tex., Crystal City—Jack Eubank Chevrolet Co., Inc., chartered; Jack Eubank, Owen Williams. 1-22

Tex., Flatonia—Gulf Refining Co. erect filling station; O. L. Lee now razing building on site. 1-22

Va., Fairfax—Standard Oil Co., 241 Pennsylvania Ave., N. W., plans erecting 1-story, brick service station. 1-22

Gas and Oil Enterprises

Ala., Birmingham—Birmingham Gas Co., R. E. Chew, V. P., reported, plans expenditure of \$612,000 in 1931, for extensions and improvements. 1-22

Arkansas—Arkansas Natural Gas Co., 111 W. Fifth St., Pine Bluff, F. D. Shanks, Mgr., plans beginning work soon on 6-in. gas main leading from Mississippi River Fuel Corp.'s main line east of here and to connect with local distribution system on East Fourth St.; cost \$25,000. 1-22 31

Georgia—Operating and construction program for 1931 by Southern Cities Public Service Co., 105 Adams St., Chicago, Ill., involves \$10,000,000, of which \$2,000,000 will be expended in Atlanta; corporation owns the Atlanta Gas Light Co., Atlanta; Consumers Gas & Coke Co., Waycross; Georgia Public Utilities Co., Augusta, Rome and Griffin; Georgia Public Utilities Corp., Athens and Brunswick; Macon Gas Co., Macon; Valdosta Gas Co., Valdosta, and gas properties in Alabama, Florida, North and South Carolina and Texas. 1-8

Ga., Columbus—Georgia Power Co. expend from \$150,000 to \$175,000 for changes and extensions of mains in connection with proposed institution of natural gas service in Columbus; contract for natural gas made with Southern Natural Gas Corp., Watts Bldg., Birmingham. 1-22

Ky., Hardyville—Stoll Oil Refining Co., 227 W. Main St., Louisville, reported, acquired 8 acres near here as site for pumping station; construct two 10,000 bbl. storage tanks, pump houses, etc. 1-22

Louisiana—United Gas Corp., Esperson Bldg., Houston, Tex., reported, announced incorporation in Delaware of United Gas Public Service Co., as principal operating subsidiary of the corporation; properties of number of present subsidiaries are being acquired by new company; properties include Louisiana Gas & Fuel Co., City Bank Bldg., Shreveport, La.; Texas-Louisiana Production Corp.; Texas-Louisiana Pipe Line Corp., and Southwest Distributing Co., Esperson Bldg., Houston, Texas; United Gas Public Service Co., also 1-22

reported, to be acquiring from United Gas Corp., securities of Palmer Corp. of Louisiana, City Bank Bldg., Shreveport, La.; Southern Gas & Fuel Co.; United Production Corp.; Dixie Gulf Gas Co.; Houston Gulf Gas Co.; Houston Gas & Fuel Co.; Southern Gas Co.; Southern Gas Utilities, Inc., all Esperson Bldg., Houston, Texas; Northern Texas Utilities Co., Wichita Falls, Texas, and South Texas Gas Co., Esperson Bldg., Houston, Texas.

N. C., Oriental—Pamlico Oil Co. chartered; Isaac Anolio, New York; Anna Lamb, Oriental.

Oklahoma—Western Gas Service Corp., controlled by Oklahoma Natural Gas Corp., Tulsa, reported, granted franchises at Merwin, New Amsterdam, Foster, Passale, Rockville, Schell City and Harwood.

Okla., Blackwell—Morgan Petroleum Corp. purchased Tonkawa Petroleum Corp. refinery; expend \$15,000 for reconditioning.

Texas—Oklahoma Contracting Co., Allen Bldg., Dallas, Tex., reported, has contract for constructing 100 mile of 24-in. gas line from Muscatine to Knoxville, Iowa, and the Mississippi River line, portion of Continental Construction Co.'s line Texas Panhandle to Chicago. 1-22

Texas—Union Gas Utilities Co., subsidiary of Appalachian Gas Corp., 46 Cedar St., New York and Union Trust Bldg., Charleston, W. Va., plans extension of Texas pipeline system in Winter Garden District of Texas; started work laying another new lateral line through LaPryor; N. A. Saigh Co., Bldrs. Exch. Bldg., San Antonio, contr. 1-22

Tex., Henderson—Petroleum Marketing Corp., plans constructing pipe line from Joiner oil field to International-Great Northern Railway.

Tex., Henderson—East Texas Refining Co., chartered; E. F. Griswold, J. F. Lawrence.

Tex., Tyler—Rusk County Pipe Line Co., capital \$20,000, chartered; Frank Foster, C. F. Kolp.

Tex., Houston—Hamill-Smith Oil Corp., capital \$50,000, incorporated; R. E. Smith, Humble Bldg.

Tex., Wharton—Waggoner Pipe Line Co., capital \$25,000, incorporated; W. T. Waggoner, W. T. Waggoner Bldg., Fort Worth.

Tex., Wharton—Rose-Tex Oil Co., capital \$25,000, incorporated; George R. Huntington, C. Turicchi.

Ice and Cold-Storage Plants

Ark., Malvern—Southern Ice & Utilities Co., F. Stroup, Mgr., reported, construct, under supervision of V. Z. Mitchell, Const. Supt., a 1-story, 60x90 ft. ice plant at Main and Dyer St.; cost \$40,000.

Fla., St. Petersburg—Florida West Coast Ice Co., Power and Light Bldg., increased capital from 100,000 shares of par value to 200,000 shares of no par value.

La., Monroe—Wm. A. Sailer, 3801 Mockbird St., Dallas, Tex., reported, construct ice plant, Hall and Layton Ave.; 50x75 ft.; stucco; cost \$100,000.

Miss., Greenville—Greenville Ice & Coal Co., reported, let contract to York Ice Machinery Corp., 609 Tchoupitoulas St., New Orleans, La. for remodeling ice plant. 1-8

Mo., St. Louis—Crystal Ice Co., Omaha, Neb., acquired site; will erect 2 story plant; cost \$100,000.

Mo., St. Louis—Crystal Ice Co., Omaha, Neb., erect \$100,000 plant on recently acquired site, Easton and Spring Aves.; employ from 100 to 150 workers; first unit of 2-story plant to be 60x105 ft., tile interior; A. H. Stiel, Contr., 815 Chestnut St.

Tex., Tyler—M. Burnett, Greenville, reported, construct 20 ton ice plant.

Land Development

Fla., Fort Lauderdale—Florida Beach Properties, Inc., capital \$10,000, chartered; G. G. Crawford, C. D. Bosley.

Fla., Miami—Spard Co., Inc., chartered; J. C. Ganyard, 1530 S. W. 11th Terrace.

Fla., Miami—Trinity Parish Holding Corp. incorporated; R. T. Phillips, 464 N. E. 16th St.

Fla., Miami Beach—R. D. Stevens, 500 N. W. Forty-fourth St., Miami, reported, has contract for about 200 acres clearing of mangrove swamp in connection with development of Virginia Key Development Co., F. G. Rand, Pres., 12th Floor Huntington Bldg.; contract for bulkheading and dredging to be let soon. 12-11

Fla., West Palm Beach—Charles Kelly, Inc., chartered; C. W. Kelly, 701 Flamingo St.

Ga., Savannah—Monahan Realty Co., organized; J. J. Monahan, 525 Maupus Ave.

Md., Baltimore—The Vabb Corp., 37 S. Stricker St., incorporated; Frederick H. Vinup, Garrett Bldg.

Md., Salisbury—Salisbury Park Comsn., endorsed construction of lake in city's park proper and filling of land on property; lake will be 1800 ft. long and 350 ft. wide.

N. C., Reidsville—William C. Stokes, Inc., capital \$30,000; William C. Stokes, E. D. Watt.

S. C., Charleston—Bamberg Development Co., incorporated; A. R. LaCoste, 16 Broad St.

Tex., Houston—Spanish Trail Land Co., capital \$300,000, chartered; B. F. Bonner, First Natl. Bank Bldg.

Va., Galax—Felts Memorial Cemetery, capital \$10,000, incorporated; T. L. Felts, Pres.

Va., Portsmouth—Forest Park Land Co., capital \$50,000, chartered; J. F. Benson, Sec., 41 Court St.

Va., Williamsburg—Jamestown Corp., capital \$50,000, chartered; C. M. Hall, Attorney.

Lumber Enterprises

Fla., Tampa—Graves-Denton Lumber Co. incorporated; S. B. Denton, 415 Cass St.

La., Alexandria—Krause & Managan Lumber Co., S. Ryan St., Lake Charles, and 931 Jackson St., Alexandria, purchased retail lumber business of George C. Vaughan & Sons Lumber Co., 602 Monroe St.

Mining

Miss., Crystal Springs—State Gravel Co., Inc., A. D. Anderson, 426 Lampton Bldg., Jackson, develop approximately 100 acres of deposits; daily produce 20 to 30 cars of gravel and same output of sand; install cable-way excavator.

Va., Bristol—Carolina Mineral Co., Inc., Bristol, R. W. Lawson, V. P., increased maximum authorized capital stock from \$50,000 to \$60,000; changed location of principal office from Petersburg to Bristol.

Va., Clifton Forge—Iron Mountain Mining and Development Corp., capital \$25,000, incorporated; Williams and Mullen, Atty., American Natl. Bank Bldg., Richmond.

Miscellaneous Construction

D. C., Washington—District Commrs., Luther H. Reichelderfer, open bids Mar. 4 for constructing either or both of 2 incinerators of 170 and 425 tons daily capacity for burning household rubbish, business house rubbish, leaves and street sweepings; large storage bins will be provided and furnaces will be charged by traveling grab bucket cranes through pneumatically operated charging openings through tops of furnaces; smoke and dust from ash handling are to be confined to interior of ash hoppers and furnaces; provision is made for dumping ashes directly from grates into individual ash pits or hoppers, in which water quenchers will be provided; hoppers will have water seals; quenched ashes will be removed directly to electric motor operated cars through pneumatically operated discharge gates at bottom of each hopper; drainage from quenchers and water seals is to be carried through pipes directly to sewer; at smaller plant, ashes can be dropped directly from individual hoppers into motor trucks for transportation to dumps outside city limits; at larger plant, ashes will be discharged from electric car into skip hoist and thence into large storage bin ready for hauling; plans cover fixed grates, chain grates and other mechanical stokers; auxiliary fuel burning equipment will be provided to maintain sufficiently high temperatures to deodorize products of combustion during heavy rains when matter is moist; Metcalf & Eddy, Engr., Statler Bldg., Boston, Mass. 5-29 30

Fla., Miami Beach—City, Ed. R. Neff, City Engr., soon take bids for conc. bulkheading on south side of Surprise Waterway, Alton road 114 ft. easterly and approx. 100 ft. nearby; City Council hold hearing Feb. 4.

Fla., Miami—John M. Murrell let contract to McNeill Marble Works, Olympia Bldg., at \$15,000, for marble mausoleum, N. E. Second Ave and 18th St.; started construction.

La., Harvey—U. S. Engr. Office, New Orleans, postponed calling bids on Harvey lock for few days. 1-15

La., Gretna—Swimming Pool Association, Albert Samuel, Pres., 620 First St., has plans in progress for \$25,000 swimming pool; rein. conc., 50x150 ft., including dressing rooms, machine room, drilled well, plumbing, electric wiring, \$25,000; Theo. L. Perrier, Archt., Maritime Bldg., New Orleans.

La., New Orleans—U. S. Engr. Office, foot of Prytania St., opens bids Feb. 6 for approx.

16,000 cu. yd. earthwork, Red River and Bayou des Glaives Levee and Drainage Dist. Second New Orleans Dist.

La., New Orleans—Bd. of Commrs. of Port of New Orleans, New Courthouse Bldg., opens bids Feb. 4 for woodwork and painting shed at Mandeville St. wharf. 1-22

La., New Orleans—Following estimating on contract for constructing conc. retaining wall and auxiliary work for airport, shore of Lake Pontchartrain, bids to be received Feb. 6 by Bd. of Commrs. of Orleans Levee Dist., 606 Common St.; Raymond Concrete Pile Co., 140 Cedar St., New York; Orleans Dredging Co., Canal Bank Bldg.; W. Horace Williams Co., Southern Bldg.; Fuller Construction Co., 8217 Palmetto St.; McWilliams Dredging Co., Canal Bank Bldg.; R. P. Farnsworth Co., Maritime Bldg.; J. B. McCrary Co., 816 Howard Ave.; Doullut & Ewin, Inc., Queen & Crescent Bldg.; John Riess, New Orleans Bank Bldg., all New Orleans; R. C. Huffman Construction Co., 536 Terminal Tower, Cleveland, Ohio; Munroe & Westcott, North Attleboro, Mass.; following manufacturers and material dealers received plans: Kilby Car and Foundry Co., 630 W. Tenth St., Anniston, Ala.; Concrete Steel Co., 1009 Fifth Ave., S., Birmingham, Ala., and Jones & Laughlin Steel Corp., Ross St., Pittsburgh, Pa.; Ingalls Iron Works Co., Temple Bldg., New Orleans. 1-15

La., New Orleans—Bd. of Commrs. of Port of New Orleans, New Courthouse Bldg., has low bid from B. N. Davis, 1006 Tchoupitoulas St.; at \$35,544 for steel framing for shed at Bienville St. wharf, including old framing moved and re-erected, new structural steel and alterations to fire wall. 1-15

Missouri—U. S. Engr. Office, McCall Bldg., Memphis, Tenn., let contracts for 860,000 cu. yd. earthwork, Lower St. Francis Levee Dist.; J. J. McCaughey Co. and States Contracting Co., 205 W. Wacker Dr., Chicago, Ill., for Pieces 22-D and 22-D; to R. B. Potoshnick, Cape Girardeau, for Pieces 22-H and 22-I; to Miles T. Lee, Charleston, for 22-J and 22-K; 22-G to be done by hired labor with government plant. 1-8

Mo., South St. Joseph—U. S. Engr. Office, Postal Telegraph Bldg., Kansas City, let contract to A. W. Farney, Ky. Exch. Bldg., Kansas City, at \$368,930, for 5400 lin. ft. standard revetment and 10,490 lin. ft. standard pile clump dikes, Missouri River, Anderson Reach and Kenmoor Bend, 5 mi. below here.

Mo., St. Louis—City Plan Comsn., Harland Bartholomew, City Plan Engr., has preliminary plans complete for Union Station Plaza, costing approx. \$1,200,000, Chestnut to Market St.; proposes upper level to plaza, while underneath this level would be parking space for taxicabs and general public, ramps along 12th St. to connect with upper level, and placing of Market street cars underground, subway to begin west of 12th St. and end in vicinity of 11th St.; plan involves landscaping and installing several ornamental fountains north of station.

Okla., Kingfisher—White Flour Mills, J. P. Burrus, Pres., 2701 Alamo St., Dallas, Tex., has preliminary plans for additional storage tanks, costing \$50,000; private plans.

Tennessee—U. S. Engr. Office, McCall Bldg., Memphis, has low bid from Sprague & Henwood, Scranton, Pa., for core drilling, Tennessee River between Widows Bar dam and Wilson dam, Musclem Shoals.

Tenn., Memphis—U. S. Engr. Office, McCall Bldg., plans revetment, Happy Valley, Bend Island 12, Mississippi River and in Memphis Harbor.

Tex., Houston—See Drainage, Dredging and Irrigation.

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, opens bids Feb. 12 for seawall and fill.

Miscellaneous Enterprises

Ala., Birmingham—National Fireproofing Co., Fulton Bldg., Pittsburgh, purchased plant and equipment of Vulcan Tile & Brick Co., North Birmingham; modernize.

D. C., Washington—H. W. Cord, 1003 K St., N. W., F. L. Wagner, 10 L St., S. E., and Schneider-Spliedt Co., 1416 F St., N. W., will figure on revised plans for factory addition, 14th and D Sts., S. E., for Carry Ice Cream Co. 1-8-31

D. C., Washington—Skinker & Garrett, 1719 Eye St., reported, has contract for alterations to laundry for Manhattan Laundry Co., 1346 Florida Ave., N. W. 12-18

Fla., Orlando—William D. Murry, Eugene C. Pulliam and associates, reported, acquired

Orlando Morning Sentinel and Orlando Reporter-Star.

Fla., St. Petersburg—Nifty Heel Protector Mfg. Co., Inc., chartered; C. Nelson, 1934 30th Ave., N.

Ga., Atlanta—Pittman Construction Co., Contr., Rhodes Bldg., started work on alterations and repairs to factory building, 290 Hunter St., S. E., for Southern Spring Bed Co.

Ga., Atlanta—Pittman Construction Co., Rhodes Bldg., reported, has contract for alteration and repairs to factory, 290 Hunter St., S. E., for Southern Spring Bed Co.

Ga., Atlanta—Aeronautical Radio, Inc., granted license by Federal Radio Comsn. for new radio station.

Ga., Savannah—Mexican Petroleum Corp. of Georgia, Foundation Tract, reported, construct cut-back asphalt plant as addition to refinery; cost \$335,000.

Ky., Mt. Sterling—Kentucky Courier and Mt. Sterling Gazette merged; W. Hoffman Wood, Editor and Manager.

La., Bogalusa—Bogalusa Paper Co., reported, completing plans and will soon call for bids for 1 story, 72x83 ft., conc. steel and brick addition to paper plant; rein. conc. foundation; built-up comp. roof; brick exterior; cost \$20,000.

La., Opelousas—Vincent Garbo let contract to Homer Ventre for \$20,000 laundry; 30x50 ft., brick; install washing machinery, dryers, etc. 1-15

Md., Baltimore—Baltimore Post, M. Levy, Sun Bldg., remodeling building, Commerce and Pratt Sts.; building improvements, \$25,000; equipment to be installed, \$150,000; Howell & Thomas, Archts., 3868 Carnegie Way, Cleveland, Ohio; Christian F. Richter, 38 S. Liberty St., Contr. for carpentry work, such as partitions, floors, etc.

Md., Baltimore—Royal Farms Dairy, 1529 Braddish Ave., incorporated; J. Irvin McCourt, Continental Bldg.

Md., Baltimore—Crown Cork and Seal Co., Wm. Cooper, Maintenance Engr., has plans in course of preparation for alterations to building 70; 7000 sq. ft. floor space, 1-story, including machine shop; also for conc. bins for storage of cork; Lucius R. White, Jr., Archt., Court Square Bldg.

Mo., Jefferson City—Jefferson City Post-Tribune, reported, has plans by Kennerly & Stiegemeier, 1111 Title Guaranty Bldg., St. Louis, for 3 story and basement newspaper plant; 44x120 ft.; rein. conc. and brick.

Mo., Kansas City—Storads, Inc., chartered; Walter T. Terry, 8116 Walnut St., general advertising.

Mo., Kansas City—Keystone Manufacturing Co., A. W. Johnson, Mgr., 513 Hall Bldg., plan manufacturing oil and gasoline register for automobiles; plan installing aluminum foundry and other equipment in about six months; probably be three months before arrangements are made.

Mo., St. Louis—Harris-Polk Hat Co., 1221 Washington Blvd., acquired Keith Bros. & Co., men's wear house of Chicago, Ill.; move entire organization, including manufacturing and central distributing activities, to St. Louis; conduct business as separate units with joint offices.

Mo., Webster Groves, Ind. Branch St. Louis—F. E. Breckenridge Material Co., capital \$40,000, incorporated; F. E. Breckenridge, Webster Groves; E. F. Littig, Richmond Heights, Mo.; building materials, etc.

N. C., Asheville—Howerton and Hageman, capital \$50,000, incorporated; T. M. Howerton, Busbee Road, Biltmore Forest.

N. C., Elizabeth City—C. Foos, 122 McPhail St., Baltimore, Md., have option on site here; may erect pickle plant.

N. C., Greensboro—Victor Levy, 623 Broadway, New York, reported, leased building Ashe St. and Walker Ave., will remodel; install machinery for manufacture of flannel nightwear; probably operate under name Piedmont Mfg. Co.

Okl., Oklahoma City—Fremont Foundry & Valve Works, capital \$150,000, organized to manufacture oil field specialties; R. B. Fremont, 1340 W. Fifth St.

Tenn., Chattanooga—Regarding report Crane Enamelware Co., P. O. Box 680, Alton Park, is expending \$30,000 for addition, A. M. Nelson, Gen. Mgr., advises that only \$14,000 is being expended for replacing temporary walls with brick walls.

Tenn., Columbia—W. M. Deal Marble Co., reported, absorbed Dorsey & Nelson Marble Co.

Tenn., Knoxville—Kreiss Construction Co., incorporated; R. H. Kreiss, Greenvalley Road.

Tenn., Memphis—Lawrence Laboratories, Inc., capital \$20,000, chartered; James E. Stafford, 2494 Hale St.

Tenn., Murfreesboro—Murfreesboro Laundry Co., capital \$100,000, incorporated; Albert R. King, Sr., James D. Richardson.

Tex., Beaumont—Herman Weber, Perlstein Bldg., Beaumont, reported, low bidder for fire drill tower.

Tex., Dallas—Armstrong Packing Co., A. R. Marquis, Pres., 2300 Cockrell St., reported construct office building and addition to plant.

Tex., Huntsville—State Game, Fish and Oyster Comsn. let contract to J. F. Buckner, Cleburne, for fish hatchery, Harmon Creek, northeast of Huntsville.

Tenn., Lebanon—Coca Cola Bottling Works broke ground for \$30,000 factory and office building; 2 stories, conc. and steel, sprinklers, tile interior walls, 130x60 ft.; T. N. King Co., Contrs., 335 Second Ave., S., Nashville.

Tex., Fort Worth—Santa Rose Water Co., capital \$25,000, incorporated; E. P. and G. L. Waggoner, both Texas Hotel.

Tex., Fort Worth—Texas Rail Joint Co., railroad supplies, R. O. Shaffer, Vice-Pres., immediately start erecting plant; install \$150,000 machinery now en route to site.

Tex., Fort Worth—Waggoner Water Co., capital \$25,000, incorporated; W. T. Waggoner, W. T. Waggoner Bldg.

Tex., San Antonio—R. V. Barnes Co., Inc., chartered; R. W. Barnes, 1322 N. Flores St.; construction.

Va., Marion—W. F. Culbert & Sons, let contract to Coatesville Boiler Works, Middletown, Pa., for pre-mixing asphalt plant 300 yd. capacity in 10 hrs.; roller bearings with individual motor drives throughout; a 75 h. p. boiler will generate steam for all heating and melting purposes; plant will be capable of mixing up bituminous materials such as tar, road oils and asphalt; and will be adjacent to present crushing plant; foundation work started; completion by April. 1-8

Va., Clarendon—Frank Davis, 1240 28th St., N. W., has contract for alteration dairy for Marcey Bros.; 1 story, conc. block.

W. Va., St. Albans—Sutler Construction Co., incorporated; capital \$25,000; R. A. Sutler, C. E. Southard.

W. Va., Huntington—Tri-State Packing Co., 1501 Jefferson Ave., contemplates expanding.

Motor Bus Lines and Terminals

Fla., Orlando—Orlando Transit Co., incorporated; W. B. Crawford, O. B. & T. Bldg.

Kentucky—Seals Coach Line, operating as Daniel Boone Stages, Kingsport, Tenn., granted permit to operate bus line in Kentucky from Middlesboro toward Johnson City.

Mo., St. Louis—Pickwick-Greyhound Lines, Inc., Rwy. Exch. Bldg., Kansas City, has under consideration several sites for proposed motor bus terminal project.

Mo., Wellston, Sta. St. Louis—Wellston Ramona Bus Co., 1463 Morton St., incorporated; A. Doyel, St. Louis; Otto Christensen, Carsonville.

N. C., Statesville—Statesville-Salisbury Coach Co., acquired bus line operating between Lenoir and Blowing Rock.

Texas—Railroad Comsn., Austin, granted application of J. W. Bonner for motor bus line from Odessa to Sheffield, via McCamey; also granted permission to William Uutail, for bus line Anthony, N. M., to Texarkana, via El Paso, Odessa, Sweetwater, Fort Worth, Dallas, Sulphur Springs, etc.; granted Class B truck permits to C. O. Sisson, Denison, and K. K. Boyce, Lelia Lake.

Va., Big Stone Gap—Stone Gap Motor Co., capital \$25,000, chartered; J. R. Eagan.

Va., Richmond—R. F. & P. Transportation Co., Broad St. Station, applied to State Corporation Comsn., for permission to operate local bus service between Richmond and Washington.

Va., Richmond—McCoy Transfer Co., applied to State Corporation Comsn., for permission to operate freight bus service between Richmond and Alexandria.

Railways

Texas—Atchison, Topeka & Santa Fe Ry., W. B. Storey, Pres., Chicago, Ill., applied to Interstate Commerce Comsn., Washington, for permission to acquire North Plains and Santa Fe Ry., and to include that company in operations of its subsidiary, Panhandle & Santa Fe Ry. Co.

Texas—Atchison, Topeka & Santa Fe Ry., W. B. Storey, Pres., Chicago, Ill., advises regarding capital expenditures for 1931, total capital program calls for, roughly, \$13,800,000 for new improvements and \$21,250,000 for work already authorized; \$10,000,000 for new construction and \$6,000,000 for new equipment; of this the entire sum for new equipment will be expended, \$6,000,000 will be the approx. expenditure for new construction and about \$18,000,000 will be probably spent on improvements, including work authorized prior to Jan. 1, 1931, and work authorized during 1931; new construction is of lines, Amarillo, Tex., to Las Animas, Colo.; Spearman to Dumas, Tex., and Felt, Okla., to Colmor, N. M., aggregating about 362 mi.; these lines were authorized by Interstate Commerce Comsn. in 1930 and large amount of work was done during past year.

Va., Alleghany—Chesapeake & Ohio Ry. Co., C. W. Johns, Ch. Engr., Richmond, authorized extending eastbound passing track at East Alleghany, at probable cost of \$49,300.

Railway Shops and Terminals

Tex., Presidio—Atchison, Topeka & Santa Fe Ry. Co., G. W. Harris, Ch. Engr., Chicago, Ill., advises Santa Fe does not contemplate erecting creosoting plant here. 1-15

W. Va., Lumberport—Baltimore & Ohio R. R., H. A. Lane, Ch. Engr., Baltimore, Md., let contract to J. M. Cain, 2713 N. Calvert St., Baltimore, for steel stand pipe water treating plant, 30x45 ft., with 100,000 gal. storage capacity; treating plant with capacity of 15,000 gal. per hour; pump house and pumping equipment to replace that in service; total cost \$40,000; started construction.

Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

ALABAMA—State Highway Dept., Woolsey Finnell, Director, Montgomery, has low bids for 9 roads (paving) and 4 bridge projects:

Morgan—bridge over Cedar Creek, F. A. 83-C, S. P. Cook, Fairmount, Ga., \$11,230;

Butler—overhead crossing, Greenville, F. A. 223, Carter Construction Co., Geneva, \$22,516; 0.805 mi. F. A. 101, Carter Construction Co., \$19,504.

Dallas—Lowndes—bridge, F. A. 139 (220), 3-A, Brantley & Crawley, Banks, \$23,775; approaches, 3-B, Hooper Construction Co., Bunnell, Fla.;

Escambia—9.830 mi., F. A. 189, J. B. McCrary Co., Citizens Southern Bank Bldg., Atlanta, Ga., \$170,119;

Talladega—Cathoun—16.653 mi., F. A. 200A, Mitchell Bros. Const. Co., 3808 First Ave., Birmingham, \$310,298;

Cullman—3.047 mi., F. A. 151, J. B. McCrary Co., \$63,987;

Sumter—14.190 mi., F. A. 188-C, J. B. McCrary Co., \$279,796;

Montgomery—15.673, F. A. 216, J. B. McCrary Co., \$281,291;

Dallas—14.57 mi., F. A. 169, Hancock Co., 310 St. Michael St., Mobile, \$287,273;

Pike—10.00 mi., grading, draining, sand clay, F. A. 227, Brantley & Crawley, \$57,625; bridges, Penton-Mathis, Florida, \$37,983, 12-25

Ark., Fayetteville—J. Lona Slaughter, Washington County Judge, ordered building and improving 2 roads connecting with Highway 71 north of here; first 1 mi. west from Highway 71 to Johnson; other extends west from Highway 71.

Ark., Fort Smith—City formed district to pave and improve N. Sixth St., N. B St. and N. Second St., \$68,000 to \$70,000; W. L. Winters, Dist. Engr.

Ark., Russellville—Street Improvement Dist. 11, Annex 1, W. J. Cowan, Sec., Bd. of Commrs., soon take bids for curb, gutter, grade, drain, pave El Paso Ave., \$50,000; S. J. Davies, Engr., Morrilton.

D. C., Washington—Treasury Dept., Office of Supvg. Archt., plans widening to 70 ft. most of streets running north and south through Federal building triangle between Pennsylvania Ave. and the Mall during working out of Capital beautification program.

FLORIDA—State Road Dept., Robt. W. Bentley, Chmn., Tallahassee, opens bids Feb. 9 for 3 roads in following counties:

Putnam—14.91 mi. 8-in. Florida limestone base compacted, Proj. 706-B, Road 28;

Putnam-Flagler—11.16 mi., grading, draining. F. A. 72-A;
Flagler—11.86 mi., grading, draining, Proj. 72-A to Bunnell, F. A. 72-C.

Florida—State Road Dept., Robt. W. Bentley, Chmn., Tallahassee, tentatively approved 5 road projects in Hillsborough County for 1931, 3 involving highway and bridge construction costing approx. \$560,000.

Fla., Jacksonville—City Comsn. opens bids Feb. 4 for widening with 9-ft. conc. parking areas, 1½-in. sheet asphalt on 1½-in. binder on several streets.

Fla., Miami Beach—City, Ed. R. Neff, City Engr., has low bid from Everglades Construction Co., N. W. 62nd St., Miami, and Hialeah, for 140 ft. north on Euclid Ave. from Fifth St., H-121.

Fla., Pensacola—Chief, Bureau of Yards and Docks, Navy Dept., Washington, D. C., receives bids Feb. 4 for improving paving and drainage system at naval air station.

GEORGIA—State Highway Bd., J. W. Barnett, Chmn., Atlanta, opens bids Feb. 3 for 15 roads (paving unless otherwise designated) and 18 bridges in following counties:

McDuffie-Columbia—12.5 mi., Thompson-Augusta road, Thompson-Harlem, 2 bridges, F. A. 170-A Reop., 170-B&C and 66 Reop., 85,035 cu. yd. excavation, 22,378 lb. rein. steel, 147,087 sq. yd. conc. paving, 113,612 lin. ft. raised edge curb, 24,600 lb. rein. steel in bridge;

Douglas—11.55 mi., grading, Douglasville-Villa Rica road, Douglasville-Villa Rica, F. A. 36 Reop., 138,176 cu. yd. excavation, 38,815 lb. rein. steel;

Madison—bridge, Athens-Danielsville road, Clarke County line-Danielsville, F. A. 126-C, 96,500 lb. rein. steel, 1760 lin. ft. untreated foundation piling;

Banks—bridge, Commerce-Carnesville road, F. A. 352-C, 84,900 lb. rein. steel;

Jeff Davis—5.00 mi., grading, Hazelhurst-Baxley road, Hazelhurst-Applying County line, F. A. 476-A, 80,227 cu. yd. excavation, 23,139 lb. rein. steel;

Columbia-Richmond—6.0 mi., Thompson-Augusta road, Harlem-near Richmond County line, F. A. 32-A Reop., 32-B and 141-C, 27,584 cu. yd. excavation; Alt. 1, 70,411 sq. yd. vit. brick on conc. base; Alt. 2, 70,411 sq. yd. conc., 62,168 lin. ft. raised edge curb;

Gwinnett-Barrow—50,595 lin. ft. guard rail, Lawrenceville-Widner road, Lawrenceville-Widner, F. A. 459;

Terrell—11.00 mi., Dawson-Richland road, Dawson-Webster County line, F. A. 347, 9135 cu. yd. excavation, 135,720 sq. yd. limerock base, 30,716 gal. tar prime coat, 87,860 gal. asphalt, 1100 tons extra limerock;

Pike—8.7 mi., Zebulon-Thomaston road, Zebulon-Upson County line, F. A. 259-B, 102,415 cu. yd. excavation, 34,746 lb. rein. steel;

Pulaski—10.0 mi., Hawkinsville-Eastman road, Hawkinsville-Dodge County line, bridge, F. A. 475-A&113 Reop., 22,941 cu. yd. excavation, 123,185 sq. yd. limerock base, 36,955 gal. tar prime coat, 61,592 gal. asphalt, 19,700 lb. rein. steel, 41,900 lb. struc. steel in bridge;

Brooks—12.8 mi., grading, 8 bridges, Quitman-Moultrie road, near Quitman-Colquitt County line, 135,634 cu. yd. excavation, 42,153 lb. rein. steel; 91,000, 204,200 lb. struc. steel in bridges;

Dodge—7.82 mi., 2 bridges, Hawkinsville-Eastman road, Dodge-Pulaski County line-Eastman, F. A. 475-B, 15,582 cu. yd. excavation, 96,391 sq. yd. limerock base, 28,917 gal. tar prime coat, 48,195 gal. asphalt; 2100 lb. rein. steel, 7700 f. b. m. treated timber in bridges;

Jeff Davis-Applying—14.7 mi., Baxley-Lumber City road, Baxley-east end of F. A. 210-A, F. A. 476-B&210-AC, 37,600 cu. yd. excavation; Alt. 1, 188,551 sq. yd. limerock base, 55,066 gal. tar prime coat, 19,777 gal. asphalt, 1400 tons extra limerock; Alt. 2, 174,719 sq. yd. sand asphalt base with sand asphalt surfacing;

Grady—7.647 mi., Thomasville-Tallahassee road, Thomas County line-Florida state line, F. A. 505-B, 6918 cu. yd. excavation, 89,730 sq. yd. cement conc.;

Hall—3 bridges, Gainesville-Cleveland road, Gainesville-south end of F. A. 220, F. A. 220-D, 39,968 cu. yd. conc., 258,000 lb. rein. steel, 1930 cu. yd. excavation, 1787 sq. yd. conc. paving;

Cobb-Douglas—7.139 mi., Austell-Douglasville road, Austell-Douglasville, F. A. 41 Reop. & 41-B, 52,484, 7227 lb. rein. steel, 83,777 sq. yd. plain conc. paving, 76,438 lin. ft. raised edge curb;

Madison—2,3300 mi. top soil, bridge, Athen Elberton road, Carlton-Elbert County line, F. A. 483-B, Contr. 1, 45,524 cu. yd. excavation, 9991 lb. rein. steel; Contr. 2, 34,000 lb. rein. steel, removing present bridge;

Emanuel—8.5 mi. mi., Swainsboro-Statesboro road, Graymont-Bulloch County line, F. A. 29-C, 7410 cu. yd. excavation, 100,537 sq. yd. conc. paving.

Georgia—Highway and bridge work for which bids will be opened by State Highway Bd., J. W. Barnett, Chmn., Atlanta, Feb. 3, 17 and 24, will total approx. \$4,000,000. 1-22

KENTUCKY—State Highway Comsn., H. D. Palmore, Engr., Frankfort, opens bids Feb. 25 for grading, draining 2 roads in following counties:

Carroll—2.6 mi., Carrollton-Warsaw road, Ghent-Gallatin County line, F. A. 198 BG;

Whitley—18.1 mi., Corbin-Cumberland Falls road, Corbin-Cumberland River at Cumberland Falls 224 AG.

La., Bastrop—City, Mayor and City Council, opens bids Feb. 3 for approx. 2 blocks paving, Todd St., gravel, reinforcing, curbing, etc.; A. C. Volk, Engr.

La., Gretna—City, Dr. Chas. F. Gelbke, Mayor, opens bids Feb. 19 for paving, Cont. 1-SSDP-A, and subsurface drainage, Cont. 1-SSDP-B of Second St.; paving, Cont. 2-SSDP-A and sub-surface drainage, Cont. 2-SSDP-B, Lafayette Ave.; John Gidliere, City Engr., 422 Fifth St.

La., Lafayette—City, Wilson J. Peck, City Secretary, opens bids Feb. 19 for 14,000 sq. yd. Portland cement conc. or brick pavement widening, 42,000 sq. yd. Portland cement conc., asphaltic conc., or brick pavement, all with necessary grading, draining.

La., Tallulah—Madison Parish Police Jury, O. Benjamin, Sec., Courthouse, opens bids Feb. 4 for Huron Gin toward Duckport road, consisting of earth embankment, gravel surfacing, conc. culvert pipe and headwalls to same and small cresote timber bridge over drainage canals.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, opens bids Feb. 3 for 2 roads in following counties:

St. Mary's—1.44 mi., gravel, Oakville-San-gates Road, end of Cont. SM-73 to Sand-gates, Cont. SM-79-82;

Worcester—1.13 mi. conc., Berlin-Liberty-town road, end of Cont. Wo-66 toward Lib-ertytown, Cont. Wo-90-14, F. A. 225.

Md., Baltimore—Col. Alvin K. Baskette, Third Corps Area Quartermaster, plans asking bids soon for walks, conc. roadways and installing benches and walk around entire seawall, Fort McHenry, \$80,000; appropriations bill approved by Senate Appropriations Committee, awaiting President's signature.

Md., Baltimore—City, Nathan L. Smith, Highways Engr., opens bids Feb. 4 for 4300 sq. yd. sheet asphalt, Cont. 575; for 10,450 sq. yd. conc., Cont. 576; for 60,000 cu. yd. grading roads, near Prettyboy Dam; Cont. 566.

Md., Baltimore—City, Nathan L. Smith, Highways Engr., has low bids for streets: Cont. 571, sheet asphalt, Baltimore Asphalt Block & Tile Co., 1320 N. Monroe St., \$36,456; Cont. 572, conc., Aiello Construction Co., Gough and Dean Sts., \$20,788.

Md., Rockville—City, J. Roger Spates, Mayor, and Montgomery County, plans developing plaza in front of courthouse under construction, and widening Montgomery Ave.

MISSISSIPPI—State Highway Comsn., Gus A. Draper, Engr., Jackson, opens bids Feb. 11 for 5 roads in following counties:

Newton—7.59 mi., Decatur-Union;

Attala-Holmes—2.11 mi., Durant-Kosciusko;

Lauderdale—3.782 mi., Meridian-Russell;

Jones—3.578 mi., Proj. 207-B, and 0.661 mi., both Laurel-Collins.

Mississippi—State Highway Comsn., Gus A. Draper, Engr., Jackson, probably start in 60 days paving U. S. Highway 51, Hernando to Tennessee state line, DeSoto County.

Mississippi—State Highway Comsn., Jackson, plans immediately expending \$100,000 straightening and preparing for possible paving, Highway No. 51 Pike County, between Magnolia and Osyka.

Miss., Calhoun City—City, Mayor and Bd. of Aldermen, opens bids Feb. 3 for grading streets, alleys and avenues.

Miss., Lexington—Holmes County Supvrs. open bids Feb. 2 for graveling Sudbeck Hill and Tate Hill, Lexington and Bowling Green road; county to do all sub-grading.

Miss., Monticello—Town, Mayor and Bd. of Aldermen, opens bids Feb. 2 for maintaining streets.

N. C., Smithfield—Johnston County Highway Comsn. plans expending \$185,000 for roads. See Financial News Columns.

OKLAHOMA—State Highway Comsn., Lew Wentz, Chmn., Oklahoma City, opens bids Feb. 2 for 9 roads (grading, draining unless otherwise designated) and 10 bridge projects in following counties:

Comanche—1 mi. paving and bridge work over Cache Creek, State Highway 29;

Roger Mills—11.5 mi., and bridge, No. 64;

Grant—9.2 mi., and bridges, 24;

Washita-Custer—13.6 mi., and bridge, No. 14;

Craig—13.8 mi., and bridge, No. 73;

Kiowa-Tillman—18.3 mi., and bridge, No. 14;

Lincoln—13.9 mi., and structure, No. 18;

Kingfisher—2.6 mi., and bridges, No. 33;

Cotton—8.4 mi., and structure, No. 70;

Haskell—2 steel bridges, No. 43;

Woods—5 mi., and bridges, No. 64;

Tulsa—bridge, 3 mi. west of Fisher, No. 64.

Oklahoma—State Highway Comsn., Lew Wentz, Chmn., Oklahoma City, has low bids for maintenance graveling 8 roads, costing approx. \$54,862, from following: E. Standley, Seminole; J. E. Dismuke, Muskogee; Western Paving Co., Petroleum Bldg., Oklahoma City; James C. Holden, Ardmore; L. L. Massey, 3206 W. 12th St., Oklahoma City; R. C. Turner, Durant, and A. L. Cook, Ottawa, Kan.

Okla., Oklahoma City—City plans paving Shartel Ave.

TENNESSEE—State Dept. of Highways and Public Works, T. E. McEwen, Engr., Nashville, authorized road and 3 bridge projects costing approx. \$450,000:

Cooke—bridge over French Broad River near Bridgeport, No. 216-B;

Jefferson—8.3 mi., grading, draining, State Highway 9, Dandridge-Cooke County line;

Smith—bridge over Caney Ford River between Carthage and Elmwood.

Tenn., Chattanooga—Hamilton County plans building road, Soddy to New Dayton Pike.

Tex., Beaumont—City opens bids Feb. 3 for 16 blocks paving, costing approx. \$100,000.

Tex., Houston—See Bridges, Culverts and Viaducts.

Tex., Texarkana—City, R. E. Floyd, Sec., expend \$90,000 for relocating and paving State Line Ave. See Financial News Columns.

VIRGINIA—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, opens bids Feb. 10 for 3 roads and 3 bridges in following counties:

Carroll—190-ft. bridge 3.8 mi. from Laurel Fork, over Big Reed Island Creek, Route 12, 3 30-ft. rein. conc. beam spans and 90-ft. low steel truss, 48,890 lb. rein. steel, 96,600 lb. struc. steel, F506B4; 172-ft. bridge 22 mi. east of Galax, over Snake Creek, Route 12, 2 45-ft. rein. conc. beam spans and 75-ft. low truss, 54,935 lb. rein. steel, 78,000 lb. struc. steel, F506B5;

Rockbridge—4 mi. macad., 2.2 mi. north of Buena Vista to Lexington, Route 14, 116,365 cu. yd. excavation, 61,849 lb. rein. steel, 43,451 sq. yd. macad., 592A;

Botetourt—3.2 mi. macad., 8 mi. north of Roanoke to 5 mi. north of Roanoke, Route 33, 35,323 cu. yd. excavation, 29,763 lb. rein. steel, 56,233 sq. yd. macad., F640C;

Bedford—42-ft. bridge, 5 mi. northeast of Lynchburg, over Judith Creek, Route 14, 40-ft. rein. conc. beam span, 23,155 lb. rein. steel, F647B1;

Frederick—5 mi. macad., 2.6 mi. north of Middletown to Cedar Creek, Route 33, 33,410 cu. yd. excavation, 80,242 sq. yd. macad., F657AC.

Va., Norfolk—U. S. Marine Hospital, S. L. Christian, Custodian, opens bids Feb. 2 for building driveways, etc., including widening 1500 ft. of driveway by 4 ft., relocating cess-pools, fire hydrants, electric light standards, extending tile drains, removing present wooden flagpole, and installing new 60-ft. flagpole, 300 sq. ft. conc. walkway, etc.

Va., Roanoke—City, P. H. Tucker, City Clk., expend \$450,000 for street improvements. See Financial News Columns.

Va., Roanoke—City plans widening street around municipal center, work to start immediately after completion of proposed Federal building.

WEST VIRGINIA—State Road Comsn., Geo. E. White, Sec., Charleston, has low bids for 3 roads and 9 bridges in following counties:

Nicholas—15 mi. crushed stone surfacing, Keely Construction Co., Empire Bldg., Clarksburg, \$54,876;

Raleigh—2.9 mi. stone base and retread top, Raleigh-Shady Springs Road, R. B. Tyler Co., 1446 Levering St., Louisville, Ky., \$45,440; 3.4 mi., stone base and retread top, Shady Springs-Ghent road, same firm, \$54,772;

Ritchie—Beckner bridge substructure, Robert Zando, Williamson, \$12,941;

Tucker—David Bridge superstructure, Bristol Steel & Iron Works, Bristol, Va., \$12,630;

Wayne—Ceredo bridge substructure, West Engineering Co., 926 Sixth Ave., Huntington, \$15,291; superstructure, Boso & Ritchie, Ravenswood, \$25,886.

Contracts Awarded

Ala., Birmingham—City, A. J. Hawkins, City Engr., let contracts for bridge and streets: Madrid Ave., Independent Paving Co., 3828 First Ave., S., \$35,629; Green Spring Ave., Dunn Construction Co., Inc., Lincoln Life Bldg., \$37,524; Georgia road, 60th to 64th St., Fromhold Construction Co., \$12,689; Georgia road, 64th to city limits, Fromhold Bros., \$52,733; rein. conc. bridge over Village Creek, Ave. W. Ensley, Christie-Hutchinson & Burton, 502 N. 21st St., \$12,209. 1-8

ARKANSAS—State Highway Comsn., Dwight H. Blackwood, Chmn., Little Rock, let contracts or rejected bids for 19 roads (conc. unless otherwise designated) and 4 bridge projects, costing approx. \$3,000,000, in following counties:

St. Francis—7 mi., Highway 70, Job. No. 11,015, Hayes Construction Co., Jackson, Tenn., \$118,616; 8 mi., Highway 70, No. 11,016, Hayes Const. Co., Jackson, Tenn., \$155,355; 6 mi., Highway 70, No. 11,034, J. B. McCrary Construction Co., Citizens & Southern Bk. Bldg., Atlanta, Ga., \$129,263;

Monroe—4.5 mi., Highway 70, No. 11,036, J. P. McNulty, 2121 Cherry St., Pine Bluff, \$86,401; 4.5 mi., Highway 70, No. 11,037, J. P. McNulty, \$103,285;

Hempstead—12 mi., Highway 67, No. 3116, E. W. Baker & Co., Perrine Bldg., Oklahoma City, \$103,480;

Clark—9 mi., Highway 51, No. 3117, D. H. Dalton & Co., Arkadelphia, \$93,533; 6 mi., Highway 51, No. 3118, Grady Garms, Rector Bldg., Little Rock, \$54,987; 4.6 mi., Highway 51, No. 3121, bids rejected;

Nevada—6.5 mi., Highway 67, No. 3162, D. H. Dalton Co., Arkadelphia, \$65,979; repairing existing bridge over Ouachita River, Highway 76, No. 3164, M. K. Orr, 1523 Broadway, Little Rock, \$10,484;

Washington—10 mi., Highway 71, No. 4127, Hartman-Clark Bros. Co., Peoria, Ill., \$151,544; 10 mi., Highway 71, No. 4128, Hartman-Clark Bros. Co., \$223,652;

Lonoke—4 mi., Highway 67, No. 6104, D. P. Jones Construction Co., Little Rock, \$54,108; 6 mi., Highway 67, No. 6105, J. P. McNulty, \$80,792;

Prairie—2275 ft. rein. conc. deck girder bridges, Highway 70, No. 6120, Peterson & Earnhart, Montgomery, Ala., \$147,815; 6.5 mi., Highway 70, No. 6121, E. W. Baker & Co., Oklahoma City, Okla., \$150,951;

Garland—501 ft. rein. conc., deck girder bridges, Highway 6, No. 6132, Luten Bridge Co., A. O. U. Bldg., Little Rock, \$34,787;

Hot Spring—10.5 mi., Highway 67, No. 6133, D. F. Jones Construction Co., \$150,043;

Saline—6 mi., Highway 67, No. 6134, D. F. Jones Construction Co., \$88,885;

Ouachita—517 ft. treated timber pile bent bridges with conc. decks over North Fork, Highway 4, No. 7153, J. B. Beaver, Benton, \$13,310;

Clay—7.5 mi. grading, draining, Highway 67, No. 10,146, D. F. Jones Construction Co., \$27,151;

Craighead—382 ft. I-beam bridges, Highway 18, No. 10,152, Parham Construction Co., East St. Louis, Ill., \$26,756;

Lawrence—5.5 mi. grading, draining, Highway 91, No. 101,154; Harold A. Worman, Pittsfield, Ill., \$22,903. 1-15

Fla., Miami Beach—Ocean Beach Heights, Inc., First Natl. Bank Bldg., Miami, let contract to Robert G. Lassiter & Co., S. W. 27th Ave., for streets, roads and curbing in proposed residential colony north of city, 98th St. to Baker's Haulover.

Louisiana—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, let contract to J. J. McKeithen, Grayson, at \$17,360, for 8 mi. grading, draining, Start-Columbia Highway. 1-15

La., Baton Rouge—State Highway Comsn., O. K. Allen, Chmn., let contracts for cement, reported to cost approx. \$18,700,000, to following firms: Lehigh Portland Cement Co., Bankers Bond Bldg., 500,000 bbl.; Universal Atlas Cement Co., Brown-Marx Bldg., 500,000 bbl.; Alpha Portland Cement Co., American Traders Natl. Bank Bldg., 1,000,000 bbl.; Lone Star Cement Co. of Alabama, Comer Bldg., 1,500,000 bbl., all Birmingham, Ala.; Lone Star Cement Companies of Louisiana, Texas and Alabama, 2,500,000 bbl. order to be divided among first 3 divisions of that concern; Oklahoma Portland Cement Co., Perrine Bldg., Okla. City, Okla., 900,000 bbl.; Arkansas Portland Cement Co., Wallace Bldg., Little Rock, Ark., 900,000 bbl.; Trinity Portland Cement Co., Western Indemnity Bldg., Dallas, Texas, 1,200,000 bbl.; Marquette Portland Cement Co., Cape Girardeau, Mo., 750,000 bbl.; Signal Mountain Portland Cement Co., Volunteer Bldg., Chattanooga, Tenn., 250,000 bbl.

Md., Baltimore—City, Nathan L. Smith, Highways Engr., let contracts for streets: Grading Cont. 570, L. J. McCourt, 861 Greenmount Ave., \$11,235; Cont. 569, sheet

asphalt, American Paving & Contracting Co., 2525 Montebello Ave., \$31,766. 1-22

MISSOURI—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, let contracts for 3 roads (chats) in following counties:

Barton—4.848 mi., 160-11; 3.045 mi., 160-12, both to J. M. Roark, Anderson;

Dade—1.906 mi., 160-14, J. M. Roark, Anderson, 12-23-30.

Mississippi—State Highway Comsn., Gus A. Draper, Engr., Jackson, let contract to Cooper Bros. Construction Co., Brooksville, at \$74,245, for Laurel-Hattiesburg road, F. A. 70-C, Jones County. 1-15

Mo., St. Louis—Bush-Burns Realty Co., 712 Chestnut St., let contract to Fruin-Colnon Contracting Co., Merchants Laclede Bldg., for 3,000,000 cu. yd. grading, Westhampton subdivision.

Okla., Tulsa—City Comsn., let contract to J. H. Maxwell, 5 N. Boston St., at \$23,669, for 9 blocks grading, paving, 31st Pl., Bren-Rose and Zuni St., 30 ft.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, let contracts for 21 roads and 11 bridge projects in following counties:

Madison-Brazos—1 mi. grading, 4 small bridges and steel span bridge 110 ft. long, Thomas & Ratliff, Rogers, \$95,507;

Ellis—1661 ft. bridging, Highway 6, in Waxahachie, Purvis & Bertram, 112½ W. Ninth St., Fort Worth, \$114,361; 5 mi. grading, draining, Highway 14, James Spencer & Sons Const. Co., Hot Springs, Ark., \$43,432;

Cottle—11.4 mi. triple bitum. surface treatment on crusher-run broken stone base course, Highway 28, Dexter Construction Co., Lovefield Drive, Dallas, \$131,012;

Waller—9.3 mi. grading, draining, Highway 6; grading and small structures, J. P. Foty, Burt Bldg., Dallas, \$48,921; large structures, Thomas & Ratliff, \$20,003;

Hudspeth-Culberson—14.4 mi. triple bitum. surface treatment on gravel or broken stone base course, Highway 1, Orr & Ralls, El Paso, \$115,411;

Shackelford—17.1 mi. triple asphalt surface treatment, Highway 23, J. E. Ward Co., Inc., Linz Bldg., Dallas, \$45,580;

Dallas—8.6 mi. grading, draining, Highway 15-A, B. F. Brooks Construction Co., Inc., Love Field, Dallas, \$18,323;

Knox—18 mi. gravel base course with triple bitum. surface treatment, Highway 24, McClung Construction Co., Fort Worth Natl. Bldg., Fort Worth, \$136,567; 15 mi. maintenance replacement of conc. pavement, Highway 30, Womack-Henning & Rollins Construction Co., Sherman, \$4129;

Caldwell—12.7 mi. triple bitum. surface treatment on gravel base course, Highway 80, Brown & Root, Norwood Bldg., Austin, \$75,641;

Atascosa—4 mi. bridging Highway 97, Geo. W. Condon Co., Omaha, Neb., \$24,399;

Burnet—5 mi. bridging, Highway 74, Hanna Construction Co., Waco, \$15,441;

Hartley—205 ft. maintenance replacing treated timber pile trestle, Highway 58, Austin Bridge Co., 1813 Clarence St., Dallas, \$4534;

Archer—3 mi. maintenance replacing conc. pavement, Highway 79, Womack-Henning & Rollins Construction Co., \$7636;

Childress—12.5 mi. grading, draining, Highway 5; small structures, J. P. Foty, \$48,107; large structures, R. B. Stroup, Vernon, \$28,687. 1-1

Hale—22.1 mi. conc., Highway, and 4.4 mi. double bitum. surface and grading, draining, 28 in. Plainview, Womack, Henning & Rollins, \$499,346;

Hidalgo—14.5 mi. conc., Highway 19, R. W. Biggs, Pharr, \$298,974;

Comal—1.4 mi. grading, draining, Highway 46, Kelly Kain Co., San Antonio, \$2426;

Travis-Bastrop—5.1 mi. grading, draining, Highway 95, Hannah Kain Co., and Fred and Dan Hall, 3401 Morrow Ave., Waco, \$16,339;

Young—bridge over Brazos River, Highway 67, Brown-Abbott Co., Wilson Bldg., Dallas, \$90,452;

Tarrant—200-ft. multiple box culvert, grading, conc. paving for M.-K.-T. underpass, Highway 2, J. P. Foty, Dallas, \$12,460;

Coke—4.5 mi. triple bitum. surface, Highway 9, R. E. and C. W. James, 734 N. Edgefield St., Dallas, \$53,408;

Kinney—9.1 mi. rock asphalt, Highway 131, Kirsch & Lanham and S. P. Walker, Bedell Bldg., both San Antonio, \$55,053;

Wichita—south approach to Burkburnett bridge, Highway 30, L. D. Parks, Fort Worth, \$5965;

Hardeman—7.8 double bitum. surface and conc., Highway 51, J. W. Zempter Const. Co., Inc., Fisk M. & P. Bldg., Amarillo, \$82,970;

Anderson—8.4 mi. conc., Highway 43, J. P. Foty, \$166,123;

Milam—1.3 mi. grading, draining, Highway 43, Hannah Main Co. and Fred and Dan Hall, \$4580;

Grayson—12 mi. conc., Highway 91, J. P. Foty, \$227,892.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, let contracts for 9 roads and bridges aggregating \$1,411,793 in following counties:

Leon—11.8 mi. conc., Highway 32, E. P. McElwraith, Corsicana, \$282,851;

Foard—4.9 mi. conc., Highway 28, Froemming Bros., Seymour, \$99,622;

Sterling—12.1 mi. bitu. macad., Highway 9, Thompson & Simpson, San Angelo, \$135,183;

Madison—12.3 mi. conc. paving, widening shoulders and surfacing bridges, Highway 21, J. P. Foty, Burt Bldg., Dallas, \$275,685;

Nueces—16.4 mi. grading, draining, conc. paving, Highway 96; grading, small drainage structures and conc. paving, H. P. Zachry, Laredo, \$362,596; large bridge, E. P. McElwraith, \$10,416;

Jones—6 mi. conc., Highway 4, Froemming Bros., \$111,777; 9.6 mi. double bitum. surface treatment, Highway 4, McClung Construction Co., Fort Worth Natl. Bldg., Fort Worth, \$74,691;

Dimmitt—8.9 mi. rock asphalt surface, Highway 4, Dozier Construction Co., Littlefield Bldg., Austin, \$31,402;

Brazoria—3.1 mi. grading, draining, Highway 36, S. G. Powell, Jacksonville, \$27,590. 1-1

Tex., Austin—City, Adam R. Johnson, Mgr., let contract to Southwest Bitulithic Co., Littlefield Bldg., at \$15,435, for paving with 2-in. Warrenite bitulithic on 5-in. conc. base, 2 drives with parking contract, East Ave.; H. R. F. Kelland, Constl. Engr.; L. M. Chokla, Paving Engr.

Tex., Houston—City Council authorized bitum. surfacing 4 streets; to be paved by Hedges Co. under private contract.

Tex., Victoria—City let contract to Brown & Root, Inc., Norwood Bldg., Austin, for draining, Uvalde rock topping on conc. base; W. M. Foshee, Constl. Engr. 1-8

Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

La., Gretna—City, Dr. Charles F. Gelbke, Mayor, call election Feb. 18 on \$150,000 bonds for completing and construction of sewers, sewage disposal works.

Md., Baltimore—Bd. of Estimates authorized \$40,000 expenditure for storm drain Tiffany Run, Cold Spring Lane to Pen Lucy Ave.

Mo., Kansas City—City, Matthew S. Murray, Director of Public Works, received low bid of \$62,307 from Torsion Construction Co., for fourth extension of Robert Gilman Rd. sewer; work includes 637 ft. of 6-t. rein. conc. pipe, and 1282 ft. 6½-ft. rein. conc. pipe; extends from point 300 ft. south of 39th St. to 37th St. 10-2

Mo., St. Louis—W. E. Callahan Construction Co., Arcade Bldg., has contract at \$603,292 for section "J" of River des Peres Drainage Works; 125 ft. bottom, open ditch, 2½ miles long, partially lined with rip-rap and having the interstices filled with gunite. 1-22

Mo., St. Louis—City, Bd. of Public Service, plans several relief sewers; will let contract in late spring or early summer; W. W. Horner, Ch. Engr., Sewers and Paving. 12-25

Miss., Louisville—City, A. A. McNeel, Clk., receives bids Feb. 3 for drainage ditch.

N. C., Winston-Salem—City, Harry L. Shaner, Commr. Public Works, advises will construct sewer outfalls, sewage pumping stations and pumping mains for Woughtown and Youngtown section, approximate cost \$116,000, and minor sewer extensions in various sections of city at cost of \$10,000; work by city forces, under direction of Dept. of Public Works. 1-22

Okla., Miami—City, W. L. Rush, Mayor, plans \$35,000 storm sewers in business section.

Tenn., Memphis—City, Will B. Fowler, City Engr., take bids about April 1 on \$290,000 sewers for North Memphis, including Hollywood and the National Cemetery area; 45 miles of main.

Tenn., Nashville—Bd. of Public Works approved construction of trunk sewer from point north of Twentieth-fifth Ave., N.; cost \$18,000.

Tex., Dallas—City, John M. Young, City Engr., probably call bids in 30 or 60 days on \$1,500,000 storm sewer construction. 1-1

Tex., Houston—City let contract to Eugene Ash Electric Co. at \$6570 for power and lighting system at North City sewage treatment plant; to William A. Brunet, 3211 Crawford St., at \$7619 for installing conveyor supports; to J. B. Dannenbaum, Bankers Mortgage Bldg., at \$8800 for installing a floor and equipment pit; also has low bids on following sewers: Lowell St., storm sewer, Russ Mitchell, Inc., Petroleum Bldg., \$39,238; Lowell St. sanitary sewer, McClelland & Green, \$3719; Bowling Green sanitary sewer, Telpson Construction Co., 3900 Clay St., \$20,975.

Tex., Lubbock—City Comsn. decided to make sewer extensions and paving improvements.

Va., Richmond—City, R. Keith Compton, Director of Department of Public Works, ask bids Feb. 2 for \$50,000 sewers; \$350,000 bond issue approved for purpose. 12-25

Va., Lynchburg—City, R. W. B. Hart, Mgr., probably extend Fishing Creek sewer 6000 ft.

Va., Roanoke—City voted \$300,000 sewer bonds; P. H. Tucker, City Clk. 1-8

Telephone Systems

Ala., Tuscaloosa—Mead Johnston applied to Federal Radio Comsn., Washington, for permission to construct radio station, 1370 kilocycles with 100 watts power.

Ga., Tipton—WRBI, Kent's Furniture & Music Store, received construction permit from Federal Radio Comsn. to install new equipment, increasing maximum power from 15 to 100 watts.

Ky., Central City—Southern Bell Telephone & Telegraph Co., Athens, Ga., let contract to Caldwell and Drake, Memphis, for 2-story and basement building, Third St.; 40x50 ft., brick, conc., garage in rear; \$35,000.

La., Shreveport—Aeronautical Radio, Inc., granted license by Federal Radio Comsn. for new radio station.

N. C., Greensboro—Southern Radio-Telephone Co., capital \$100,000, chartered; George A. Younce, American Bank Bldg., Greensboro; radio-telephone, radio-telegraph and radio-television.

Ga., Atlanta—Southern Bell Telephone & Telegraph Co. plans four projects involving \$300,000: Raymond dial office, Gordon and Holderness Sts., 78x83 ft.; Cherokee dial office, Peachtree Rd., Buckhead, 80x53 ft.; Calhoun dial office, Main and Williams Sts., East Point, 80x52 ft.; all 1 story and basement, with provision for two additional floors, Indiana buff limestone, face brick; addition to Hemlock office, Crescent Ave. at Tenth St., 2 stories and basement, L-shaped, 30x96 ft.

Tenn., Memphis—WNBR, Memphis Broadcasting Co. granted permit by Federal Radio Comsn. to change transmitter location, install new equipment, increase rated power.

Textile Mills

Ga., Austell—Clark Thread Co., John B. Clark, Pres., Newark, N. J., receive bids Feb. 10 at Greenville, S. C., for mill buildings of 1,000,000 textile plant; main building to house 40,000 spindles, 498x133 ft., 3 stories, conc. foundations, struc. steel frame, brick walls, tar and gravel roof, cement and wood floors; warehouse, 2 stories, 50x100 ft.; opener room, 2 stories, 5x100 ft.; boiler room, 1 story, conc. foundations, brick, steel and wood, composition roof, steel sash and doors, sprinkler system; construct conc. reservoir; contractors estimating are: A. K. Adams Co., 542 Plum St., N. W., Atlanta; John W. Ferguson Co., Patterson, N. J.; Wise Granite & Construction Co., Amer. Natl. Bank Bldg., Richmond, Va.; Fapzler Construction Co., 11 Hill St., Newark, N. J.; Salmund-Serimshaw Construction Co., 526 Elm St., Arlington, N. J.; Walter Kidde Co., 140 Cedar Ave.; Equity Construction Co., 25 W. 43rd St., both New York; Batson-Cook Co., West Point, Ga.; Fiske-Carter Construction Co., Masonic Temple Bldg.; Potter & Shackelford, Inc., Allen Bldg., and Gallivan Construction Co., Gallivan Bldg., all Greenville, S. C.; J. E. Sirrine & Co., Engrs., Main St., Greenville, S. C. 1-22

N. C., Gastonia—A. H. Guion & Co., 256 W. Main St., Gastonia, have contract at \$50,000 for dyeing and finishing plant for Groves Mill, Inc., H. H. Groves, Lowell Rd.; brick and timber construction; 50,000 ft. floor space; George C. Bell, Engrs. and Archts., 420 Piedmont Bldg., Charlotte. 1-22

N. C., Maiden—Sherwood Mills, capital \$100,000, incorporated; C. R. Ocard, R. L. Sullivan, D. E. Sherrill.

Okla., Sand Springs—Commander Mills, Inc., reported, let contract for completion of \$250,000 bleachery, involving expenditure of

\$72,000, to J. E. Sirrine & Co., Greenville, S. C. 1-8-31

S. C., Chester—Eureka Cotton Mills votes Feb. 10 on increase of capital not to exceed \$850,000.

Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.

D. C., Washington—Dist. Commrs., Capt. Hugh P. Oram, Asst. Engr. Commr., construct 48-in. water main on New Hampshire Ave. between M St. and Dupont Circle; cost \$20,000.

Ky., Louisville—Board of Directors of Louisville Water Co. authorized acquisition of land and drafting of plans for \$1,500,000 reservoir, St. Andrew's Knob, near Iroquois Park; Alvord, Burdick & Howson, Engrs., 20 N. Wacker Drive, Chicago. 1-22

Tex., Brownwood—See Drainage, Dredging and Irrigation.

Ky., Versailles—City, Howard K. Bell, Engr., Lexington, will expend \$60,000 for water works; tentative survey, estimates and plans prepared; install 6 miles of 8-in. c. i. pipe and high lift pumps to river; date of opening bids not set. 1-22

La., New Orleans—Following contractors estimating on pumping station work, bids opened Feb. 4; Contr. 210-S, alterations to drainage station Nos. 2 and 6; Lionel F. Favret, Louisiana Bldg.; C. N. Bott, Audubon Bldg.; H. W. Bond & Bro., 816 Howard Ave., Thos. H. Brockman, Canal Bank Bldg., O'Brien Construction Co., American Bank Bldg., H. N. Moody, 815 Perdido St., P. N. Davis, 1006 Tchoupitoulas St., H. Pratt Farnsworth, Canal Bank Bldg., all of New Orleans; Goslin-Birmingham Mfg. Co., Inc., 800 N. 35th St., Birmingham, Ala.; Contract 119-D, motors and accessories; Fairbanks, Morse Co., Chicago, Ill.; Goslin-Birmingham Mfg. Co., Birmingham, Ala.; Westinghouse Electric & Mfg. Co., Masonic Temple Bldg.; General Electric Co., Union Indemnity Bldg.; Allis-Chalmers Mfg. Co., Canal Bank Bldg.; Electron Engineering Co., Masonic Temple Bldg.; W. J. Keller, 401 Pelican St., and Thos. H. Brockman, Canal Bank Bldg., all of New Orleans; Contract 208-S, vertical trash pumps and cast iron pipe and fittings; Fulton Iron Works, 1259 Delaware St., St. Louis, Mo.; Hardie-Tynes Mfg. Co., 800 N. 28th St., Birmingham, Ala.; American Locomotive Co., 30 Church St., New York; U. S. Cast Iron Pipe and Foundry Co., American Traders Natl. Bank Bldg., Birmingham, Ala.; The Wheland Co., Wayside and 27th St., Chattanooga, Tenn.; Goslin-Birmingham Mfg. Co., Birmingham, Ala.; Gilbert Von Phul, 511 N. St. Patrick St.; Dibert-Bancroft & Ross & Co., Ltd., 3400 Tulane St.; Economy Iron Works, Inc., 643 S. Peters St., all of New Orleans; Contract 209-S, valves for vertical trash pumps, National Cast Iron Pipe Co., Tarrant City, Birmingham, Ala.; Michigan Valve & Foundry Co., 3631 Parkinson St., Detroit, Mich.; Bacon Electric Co., Chillicothe, Ill.; Perry Equipment Co., 49 W. 45th St., New York; Hardie-Tynes Mfg. Co., Birmingham, Ala.; Todd Engineering Dry Dock and Repair Co., 960 Fulton St.; Neville & Cleary, Inc., Union Indemnity Bldg., C. T. Patterson Co., Inc., 800 S. Peters St., Carbine Harang Machinery & Supply Co., 632 St. Peters St., all of New Orleans.

Md., Baltimore—Bd. of Awards receives bids Feb. 18 for installing Montebello-Druid Conduit. See Want Section—Bids Asked.

Md., Baltimore—Bd. of Estimates approved plans for ornamental work around Druid Lake; cost \$75,000; work by Park Bd. with city forces. 1-22

Md., Frederick—City, Elmer St. C. Maxwell, Engr., City Hall, has new preliminary plans under way for \$200,000 water impounding dam; conc., 500 ft. long, 50 ft. high. 12-11

Md., Myersville—City, reported, having survey made by J. B. McCrary, Citizens & Southern Bank Bldg., Atlanta, Ga., for possible supply of water; may construct reservoir.

Miss., Bay St. Louis—Joseph L. Favre and S. Osbourne, reported, have contract for construction of conc. reservoir. 1-8-31

N. C., Charlotte—City Council and County Commrs., have estimates on extension of water main from old city limits to Industrial home; about \$37,000.

Mo., Kansas City—City Council, reported, authorized loan of \$1,000,000 for early construction of water mains.

Okla., Lawton—Following contracts let for water works: to Sherman Machine & Iron Works, 18 E. Main St., Oklahoma City, at \$196,680, for pipe line from filter plant to Fort Sill and at \$159,722 for pipe line from Fort Sill to Lawton; to Pittsburg-Des Moines Steel Co., at \$39,750, for tanks and tower; to R. A. Adkins, Lawton, at \$8957 for bases of tanks and tower to Darling Valve & Mfg. Co., Williamsport, Pa., at \$11,748, for valves; \$150,000 available from bond issue for construction of additional filter plant at Lake Lawtonka. 1-8-31

Okla., Leeds—City, reported, plans \$20,000 water softening plant; F. H. Parks, Mayor.

Okla., Shawnee—City plans voting on \$225,000 water supply bonds.

S. C., Spartanburg—Water Works Comsn. plans laying 14-in. pipe line in S. Liberty St. and Collins Ave. to Georgia St. for fire protection.

Tenn., Memphis—City asked legislature for permission to issue \$3,000,000 bonds for financing James Sheahan Pumping Station to be built near Normal Campus; cost \$2,000,000.

Tex., Gregory—Central Power & Light Co., Frost Natl. Bank Bldg., San Antonio, constructing 5-mile extension water mains, 10 in. cast iron pipe, Gregory to Ingleside, supply water to Humble Refineries; Wilson & Seward, Contrs., Brady.

Tex., Houston—City, James H. B. House, Water Commr., expend \$80,000 for water main extensions in eastern section.

Tex., Wharton—City voted \$12,000 bonds for water works. 1-15

Tex., Wichita Falls—City, N. Broom, Clk., voted \$1,000,000 bonds for water works; construct pumping plant, water mains, etc. 1-15

Va., Falls Church—City, L. P. Daniel, Mayor, reported, plans voting on \$125,000 bonds for installation of water works system. 1-22

Va., Lynchburg—R. W. B. Hart, City Mgr., recommended raising height of conc. dam at Pedlar basin to seven feet; Whitman, Reardon & Smith, Const. Engrs., Baltimore Trust Bldg., Baltimore, Md. 1-4

Woodworking Plants

Ark., Little Rock—Hudson & Duggar Co. of Arkansas, 1729 Lincoln Ave., Little Rock, Galvin Hudson, Pres., Memphis, Tenn., rebuild heading plant reported burned at \$100,000 loss.

FIRE DAMAGE

Ala., Birmingham—Residence, Shades Mountain, of E. M. Henderson, Sr., assistant managing editor of the Birmingham News.

Ark., Hot Springs National Park—J. E. Cooper's apartment; Hillside Apt., owned by J. W. Foshee, 105 Water St.; Ourway Apartment House, operated by Mrs. Spence Walker; \$20,000.

Ark., Malvern—J. H. Reeves & Co.'s store; A. J. Knight's store; building of J. H. York, Magnet Cove; loss \$25,000.

Ark., Little Rock—Heading mill of Hudson & Dugger Co., 1729 Lincoln St., loss \$100,000.

Ark., Monette—Fisher Hotel; loss \$25,000.

Ark., Pine Bluff—Residences of Carl White, and A. B. Vaughters, both Mill Town.

D. C., Washington—Dwelling, 200 Todd St., N. E., owned by Harry B. Groom, 51 Madison Ave., New York; loss \$15,000.

D. C., Washington—Representative Wm. D. Bankhead's residence, 1619 19th St., N. W.

Ga., Augusta—Rubens Dept. Store, 864 Broad St.; loss \$100,000.

Ga., Lincolnton—Hugh Green's residence, owned by L. L. Dozier Estate.

Ky., Lewisburg—Lewisburg High School; loss \$35,000; address Logan County Bd. of Education, Russellville.

Ky., Louisville—Henry M. Gember Co.'s store, 810 East Broadway; loss \$15,000.

Ky., Morehead—Morehead Consolidated Grade and High School; loss \$25,000.

Ky., Winchester—Barn of Charles Faulkner, one mile from Winchester on Ironworks pike; loss \$12,000.

La., Maxie—B. L. Smith's warehouse; loss \$8,000.

La., Plaquemine—Central Hotel, owned by Silber Bros.; loss \$50,000.

La., Zwolle—Sabine Theater; loss \$20,000.

Md., Towson, Baltimore—Frank C. Woods' residence, Baltimore Ave.

Md., Baltimore—Fairmount Mill and Lumber Co.'s storage building, 1426 E. Fairmount Ave.; loss \$15,000, including lumber.

Miss., Aberdeen—Miss Mary Glasscock's building, occupied by H. A. Claxton's store and meat market; loss \$10,000.

Miss., Columbus—Kaufman Brothers' Department Store; loss \$50,000.

Miss., Tunica—E. L. Draughton's residence; loss \$17,000.

Mo., Cardwell—Hamra & Fiesal Department Store; loss \$15,000.

Mo., Centertown—Residence of Cleo McNay near Centertown, owned by Prudential Life Insurance Co., Jefferson City.

Mo., St. Louis—Plant of Shepard Baking Powder Co., 311 N. Main St.; loss \$20,000.

Okla., Frederick—First Baptist Church; loss \$100,000.

Tenn., Dyersburg—Finley Cotton Gin, owned by J. H. Robbins.

Tex., Cleveland—Anderson Bros. Department Store; loss \$25,000.

Tex., Corsicana—Fortson Bros.' store; loss \$100,000.

Tex., Corpus Christi—A. C. Erwin's residence, Oak Park; loss \$13,000.

Tex., Cuero—Tudzin Dry Goods Co.'s store, building owned by Jake Grossman, Joiner, Ark.; local office of Central Power and Light Co., Frost Natl. Bank Bldg., San Antonio; loss \$60,000.

Tex., Houston—Home Trade Shoe Store, 311 Travis St.; loss \$40,000.

Tex., Tuscola—Plant of Dickerson Motor Co.; loss \$25,000.

Va., Salem—Salem High School; loss \$100,000; Roland E. Cook, Roanoke County Supt. of Schools.

Va., Norfolk—Warehouse of Virginia Wood Products Co., Westminster Ave. near Thayer St.; Farmers' Manufacturing Co.'s warehouse, Calvert St. near Landing St.; loss \$25,000.

W. Va., Richwood—Oakwood Theater Bldg., housing theater, Richwood Drug Store, Hanlin Five and Ten Cent Store and warehouses of Hope Natural Gas Co.; loss \$50,000.

Co., Biltmore Ave., all Asheville; L. S. Costner, Cherryville; E. W. Wagner, Salisbury.

Tex., Port Arthur—Trinity Methodist Church, South, Rev. B. B. Byus, Pastor, plans building.

City and County

Ga., Calhoun—City, F. L. Hicks, Mayor, having plans drawn by Jas. T. Mitchell, Archt., 140 Peachtree St., Atlanta, for brick city hall; 2 stories and basement; probably go forward in April. 12-11

La., Jennings—Jefferson Davis Parish Police Jury plans addition to jail; accommodate 20.

La., Hahnville—St. Charles Parish Police Jury extended date for receiving bids for \$75,000 jail; Wm. R. Burk, Archt., Balter Bldg., New Orleans; following contractors estimating: H. A. Pallfeldt, Balter Bldg.; J. A. Haase, Jr., 916 Union St.; Reilly-Ruckstuhl, Inc., 423 Carondelet St.; J. A. Petty & Sons, Inc., Audubon Bldg.; Wm. Wallace, Pere Marquette Bldg.; Gitz Construction Co., Balter Bldg.; J. V. & R. T. Burkes, Inc., Amer. Bk. Bldg.; R. H. Ketteringham, 1128 Jena St., all New Orleans; R. L. Roland & Son, 1908 Lee St., St. Louis, Mo.; Southern Prison Co., 4500 Presa St., San Antonio, Tex.; Fries & Son Steel Construction & Engineering Co., Covington, Va. 12-18

La., Pineville—City, R. C. Lawrence, Mayor, has low bid at \$23,945 from Tudor & Ratcliff, Commercial Bank Bldg., Alexandria, for city hall, jail and fire station bldg.; C. Errol Barron, Archt., Haas Bldg., Alexandria. 1-15

Md., Baltimore—Public Improvement Comsn. erect \$40,000 fire station, vicinity of Brehm's Lane and Belair Rd.

N. C., Winston-Salem—Forsyth County Bd. of Comms. may erect \$150,000 jail; plans by Hall Crews, Archt., Reynolds Bldg.; special act prepared authorizing the work by the Legislature.

Okla., Stroud—City, Hugh McConnell, Clk., erect \$15,000 city hall; brick and conc., 1 story; The Butler Co., Archt., Insurance Bldg., Oklahoma City; bids in.

Tenn., Memphis—Shelby County Comsn., E. W. Hale, Chmn., rejected bids for women's prison and laundry bldg., Shelby County Penal Farm, Mullins Station; 1 story, conc., 169x125 ft. and 118x65 ft.; new bids Feb. 3; \$80,000; Hanker & Cairns, Archts., 123 S. Court St.

Tex., Columbus—City, R. Lee Hastedt, City Mgr., receives bids Feb. 16 for city hall and fire station; brick, stone and rein. conc., 2 stories, about 57x52 ft., conc. and tile floors, tile roof, steel sash, metal lath and plaster; L. M. Wirtz, Archt., 1308 Blodgett Ave., Houston. 12-11

Tex., Lubbock—Lubbock County Bd. of Comms., E. L. Pitts, Judge, may erect jail; S. B. Haynes, Archt., drawing plans for new structure; may move present bldg. instead of building.

Tex., Menard—Menard County Bd. of Comms., Joe Matthews, County Judge, probably receive bids about March 1 for \$100,000 to \$120,000 court house; Withers & Thompson, Archts., 202 Holmes Bldg., Fort Worth. 1-8

Tex., Corpus Christi—Nueces County Comms. Court rejected bids for jail equipment for courthouse annex under constr. (contract lately noted let); readvertised for bids for Feb. 14; Dielmann & Levy, Archts.-Engrs. State Natl. Bk. Bldg.; Geo. H. Belote Construction Co., Contr., City Natl. Bk. Bldg., Corpus Christi. 1-15

Tex., Wellington—Collingsworth County, Edw. Brown, County Judge, votes Feb. 21 (lately noted Feb. 14) on \$175,000 court house bonds. 1-22

Tex., Wharton—City voted \$25,000 city hall bonds. 1-15

Va., Richmond—Committee on Public Buildings, Properties and Utilities, E. S. Bolen, Asst. City Clk., at Jan. 22 meeting ordered matter of erecting \$35,000 temporary office bldg. referred to Director of Public Works; report and recommendation will probably be made at next Committee meeting, Feb. 26. 12-11

Dwellings

Ark., Little Rock—J. A. Burdell & Son, 823 Rector St., erect \$6500 duplex and \$4000 dwelling, 600 block E. 21st St.

D. C., Washington—Alfred T. Newbold, 5626 Connecticut Ave., N. W., erect dwelling, 2741 Brandywine St., N. W., after plans by C. W. Norton, Archt.; 2 stories, \$15,000.

D. C., Washington—Raymond T. Baker, Wardman Park Hotel, reported erect \$500,000 residence, Foxhall Rd., N. W.; stone

BUILDING NEWS

BUILDINGS PROPOSED

Association and Fraternal

Ala., Montgomery—Masonic Home, E. W. C. Yarbrough, Chmn., erect \$18,000 nursery; brick, 1-story, 80 x 57 ft.; Denham & Denham, Archts., Comer. Bldg., Birmingham; bids in.

La., New Orleans—City repair American Legion bldg., Royal and Conti Sts., recently damaged by fire; plastering, elect. wiring, steel work, built-up comp. roof; \$20,000; M. B. DePass, City Archt.; plans ready for bids in about 2 weeks.

La., Woodville—Ancient Free and Accepted Masons ready for bids in about 115 days for \$35,000 temple, store and office bldg.; rein. conc. and brick, 2 stories, 82x64 ft., rein. conc. foundation, built-up comp. roof, struct. steel and iron work, steel sash, wood and conc. floors, plate glass windows, sheet metal work; water- and dampproofing; Robt. H. Goodman, Archt., Bank of Baton Rouge Bldg. Baton Rouge.

Tex., Sterling City—Ancient Free and Accepted Masons plans temple.

Va., Richmond—United Daughters of Confederacy, Mrs. A. J. Montague, Pres., Bd. of Mgrs. of Home for Needy Confederate Women, receives bids Feb. 4 for \$350,000 Home; 420x75 ft., limestone exterior, main section 3 stories, two 1-story wings, solarium, 100 bedrooms, about 50 lavatories, automatic and manual elevators, dining rooms, kitchen, diet kitchens, infirmary, memorial hall; Lee, Smith & Vandervoort, Archts., Sixth and Franklin Sts.; following contractors estimating: John T. Wilson Co., Inc., Mutual Bldg.; Allen J. Saville, Inc., Electric Bldg.; Wise Granite & Construction Co., American Bank Bldg.; Claiborne & Taylor. 7-10

Bank and Office

Ala., Birmingham—Alabama Power Co., J. M. Barry, Vice-Pres. in Charge of Operation, will make improvements to office buildings during 1931.

D. C., Washington—Standard Oil Company of New Jersey, 241 Pennsylvania Ave., N. W., receives bids Feb. 12 at office Clyde N. & Nelson Friz, Archts., Lexington Bldg., Baltimore, Md., for office and garage bldg.; \$1,000,000, steel frame, conc. floors, stone, 6 stories and basement, 71x335 ft., with 200x20-ft. court in rear above second floor; Lynn Rosebrook, company archt., 26 Broadway, New York; Herman F. Doeleman, Struct. Engr., Balto. Trust Bldg.; Reeder, Elzer & Akers, Mech. Engrs., 916 N. Charles St., both Baltimore; following contractors estimating: M. A. Long Co., 10 W. Chase St.; J. Henry Miller, Inc., 405 W. Franklin St., both Baltimore; Skinker & Garrett, 1719 Eye St., N. W.; Loudoun Rust Co., Dist. Natl. Bank Bldg.; Charles H. Tompkins Co., 1608 K St., N. W.; James Baird Co., Inc., 1800 E St., N. W., all Washington, D. C.; Thompson-Starrett Co., 250 Park Ave.; George A. Fuller Co., Fuller Bldg.; James Stewart & Co., Inc., 230 Park Ave., all New York; Karno-Smith Co., Trenton, N. J.; Irwin & Leighton, 1505 Rose St., Wark Co., 1608 Walnut St., both Philadelphia, Pa. 1-15

Ga., Atlanta—United Corp., Candler Bldg., has low bid at \$143,499 from Griffin Construction Co., 452 Spring St., N. W., for alterations and additions to bldg., Broad, Luckie and Forsyth Sts.; A. Ten Eyck Brown, Archt.; A. Barili, Jr., Asso. Archt.; Robt. G. Lose, Struct. Engr., all Forsyth Bldg. 1-8

D. C., Washington—Additional prospective estimators on American Red Cross office bldg., bids Feb. 6 by Office of Public Buildings and Public Parks, Room 1031, Navy Bldg.; Cramp Co., Denckle Bldg., Philadelphia, Pa.; Geo. Hyman Construction Co., 1010 Vermont Ave., N. W.; Boyle-Robertson, Inc., Evans Bldg.; Arthur L. Smith & Co., 2539 Pennsylvania Ave., N. W.; M. Shapiro & Son, 1427 I St., N. W.; National Construction Co., 631 Tower Bldg.; W. P. Rose Co., P. O. Box 1522; Skinker & Garrett, 17 I St., N. W., all Washington; James A. Stewart & Co., 230 Park Ave.; Thos. G. Sperling Co., 103 Park Ave., both New York; Ring Construction Co., 808 Wesley Temple Bldg., Minneapolis, Minn.; S. & W. Construction Co., Shrine Bldg., Memphis; Hunkin-Conkey Construction Co., Hunkin-Conkey Bldg., Cleveland, Ohio; Consolidated Engineer, Co., Inc., St. Paul and Franklin Sts.; Fraine Bros., 19 W. Franklin St.; P. C. Streett Engineering Co., 404 St. Paul St., all Baltimore, Md. 1-22

Okla., Oklahoma City—W. S. Key, Perrine Bldg., let contract to Harmon & Mattison Const. Co., Insurance Bldg., to remodel second and third floors of former Elks Bldg.; \$35,000; J. I. Davis, Archt. 12-25

Tex., Dallas—Central Property Owners' Assn., Martin Weiss, Pres., 911 Elm St., interested in erection of office bldg. west of Akard St., for lawyers.

Tex., Harlingen—Farm and Home Building & Loan Assn., A. E. McLellan, Valley Mgr., erect 1-story tile and stucco administration bldg. on Adams tract, 4 miles from Harlingen; receiving bids; following contractors estimating: J. N. Meeks, J. W. Jones, E. H. Buck, Ramsey Bros., Frank Hardin, Beck Lumber Co., South Texas Lumber Co., Smith & Galbraith, Smith & Poole, all Harlingen; D. W. Kennedy, San Benito; George B. Hoffman, Mercedes. 1-15

Churches

Ga., Brunswick—McKendree Methodist Church, W. H. Greenfield, member, Bldg. Comm., erect Sunday school building.

La., Thibodaux—St. Josephs R. C. Church raising funds for building.

Miss., Bonita—Oak Grove Baptist Church, J. A. Pigford, Chmn., Bldg. Comm., Russell, erect \$20,000 bldg.; brick, 1 story and basement; P. J. Krouse, Archt., M. & W. Bldg., Meridian; bids in.

N. C., Asheville—Lutheran Church receives bids Feb. 7 for brick bldg.; conc. foundation, comp. roof; Lord & Lord, Archts., 17 Church St.; following contractors estimating: McDowell & Garland; John Shytte, Westwood Road, Lakeview Park; Robinson Bros., Inc., Arcade Bldg.; Dion A. Roberts, 17 Church St.; L. L. Merchant Construction

and brick, 2½ stories; Horace Trumbauer, Archt., Land Title Bldg., Philadelphia, Pa.

D. C., Washington—G. T. Summerlin, care W. C. Waggaman, Archt., 1223 Connecticut Ave., N. W., remodel residence, 3147 P St., N. W.; drawing plans.

D. C., Washington—R. B. Warren, Connecticut Ave. and Sedgewick St., erect dwelling, 3255 Patterson St., N. W., after plans by Harry L. Edwards, Archt.; \$10,000, stone and stucco, 2 stories. 1-15

D. C., Washington—D. Wendell Phillips erect 3 dwellings, 5312-20 32nd St., N. W., after plans by Geo. T. Santmyers, Archt., 1416 I St., N. W.

D. C., Washington—A. C. Holmes erect residence, 349 Quesada St., N. W., after plans by Julius Wenig, Archt., Edmonds Bldg.

D. C., Washington—G. W. Chase, 415 Cedar St., N. W., erect dwelling, 6224 Piney Branch Rd., N. W.; plans by owner.

D. C., Washington—Thomas A. Jameson Co., 906 New York Ave., erect 6 dwellings, 401 16th St. and 1602-10 D St., N. E., after plans by Geo. T. Santmyers, Archt., 1416 I St., N. W. 1-15

D. C., Washington—Geoffrey Parsons, 150 E. 61st St., New York, erect \$28,000 residence, 2220 R St., N. W., after plans by John J. Whelan, Archt., 1147 Conn. Ave., N. W., Washington; brick, 3 stories. 1-8

D. C., Washington—J. J. James, 1226 14th St., N. W., erect 6 brick and frame dwellings, 415-29 Nicholson St., N. W.; 2 stories; \$45,000.

D. C., Washington—Azel M. Sheppard, Bond Bldg., erect \$10,000 brick residence, 5425 Thirty-first St., N. W.; 2 stories.

Fla., Miami Beach—V. H. Nellenbogen, Archt., 925 Lincoln Rd., drawing plans for dwelling.

Ga., Atlanta—Mrs. W. P. Romberger, Austell Way, about ready for bids for \$15,000 brick veneer residence, Habersham Rd.; 2 stories and basement, 25x60 ft., 3 baths, hardwood and tile floors, metal and slate roof; Owen J. Southwell, Archt., Powers Ferry Rd.; following will estimate: Gilbert Beers, Bona Allen Bldg.; Donald McIver; Straiton Hard, 289½ Peachtree St., N. E.; W. F. Kinney, 1655 Flat Shoals Ave.; Norwood Griffin Co., Bona Allen Bldg. 1-15

Ga., Atlanta—Harry Callaway, care Callaway Mills, Rhodes Haverly Bldg., plans residence, Woodward Way, Peachtree Heights; brick veneer, 1 or 2 stories, hardwood and tile floors, steam heat.

Ga., Austell—Clark Thread Co., John B. Clark, Pres., Newark, N. J., reported, receives bids Feb. 10 for about 75 operatives' cottages; J. E. Sirrine & Co., Engrs., Greenville, S. C. 1-8

Ga., Baxley—Mrs. J. E. Overstreet plans to rebuild residence.

Ga., Savannah—Richard A. Brimm, Ch. Clk., Office of Supt. of Transportation, Central of Georgia Ry., purchased site, 52nd St. near Reynolds St.; plans residence in Spring.

La., Many—S. H. Porter, Pres., S. H. Porter Hdwe. Co., Many and Zwolle, erect residence, San Antonio Ave.

Mo., St. Louis—F. S. Wlemeyer, 2625 Locust St., purchased 60 acres, Meramec River, Highway 66; plans completed for residence.

Mo., St. Louis—W. E. Waller, 7024 Berthold St., erect \$10,000 residence and garage, 826 Broadway St.; stone foundation slate roof, 33x52 ft., hot water heat.

Md., Baltimore—L. Corrin Strong, 809 Hill Bldg., erect frame residence, Gibson Island, Md.; 2½ stories; Alexander B. Trowbridge, Archt., Shoreham Bldg., both Washington, D. C.; drawing plans. 10-30

S. C., Charleston—Dr. J. Sumter Rhame, 81 W. Wentworth St., receives bids Feb. 3 for residence; J. D. Newcomer, Archt., 32 Broad St., Charleston; following contractors estimating: Gallivan Construction Co., Gallivan Bldg.; Carolina Construction Co., Walker Bldg., both Greenville, S. C.; Southeastern Construction Co., 200 Carmen St.; G. M. Canady, 52 Maple St., both Charleston; Southern Builders, Inc., Florence, S. C.; Mechanics Contracting Co., Carolina Bank Bldg., Columbia, S. C.; Ledsinger & Turner, Brunswick, Ga.

Tex., Fort Worth—Dr. N. E. Ross, Medical Arts Bldg., has permit for \$15,000 brick veneer residence, 1419 Washington Terrace.

Government and State

Ala., Maxwell Field, Montgomery—Constructing Quartermaster, Capt. M. A. McFadden, receives bids until Feb. 17 for 1 Air Corps machine shop and 1 Air Corps assembly shop, Maxwell Field; plans from above. 1-22

Ala., Maxwell Field, Montgomery—Con-

structing Quartermaster, Capt. M. A. McFadden, receives bids Feb. 20 for hospital and detachment barracks; fire station and guardhouse and post exchange; tile, brick, stucco, conc. foundation, comp. and tile roofs. 1-22

Ark., North Little Rock, Little Rock—Camp Pike Honorary Comsn., Col. John R. Fordyce, Little Rock, receiving bids for \$100,000 recreational center, Camp Pike, including \$50,000 auditorium and \$45,000 swimming pool; conc., hollow tile and steel; auditorium 62x140 ft., seat 1400, hardwood floors, pool 50x150 ft., rein. conc., 3 to 10 ft. deep, underwater lights; dressing rooms, shower baths; Thompson, Sanders & Ginochio, Archts., Hall Bldg., Little Rock. 12-4

Fla., Kissimmee—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Feb. 17 for post office, etc.; \$80,000; drawings from office Supvg. Archt. 1-8

Ky., Lexington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., advises design of bldgs. for Narcotic Farm not yet fully developed; \$5,000,000. 10-16

Ky., Madisonville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Feb. 26 for post office, etc.; drawings from office Supvg. Archt.

La., Baton Rouge—Quartermaster, Fort McPherson, Ga., Col. F. H. Burton, expects to soon call for bids for lodge at National Cemetery.

La., New Orleans—Department of Justice, Sanford Bates, Director, Bureau of Prisons, Washington, D. C.; Dibold & Owens, Ltd., Archts., Canal Bldg., New Orleans, have plans ready for bids in about 10 days to convert old Mint Bldg. for Federal prison; accommodate 300; new partitions, steam heat, new wiring, plastering, carpentry, sheet metal work, cement paving, steel windows, waterproofing, etc.; jail equipment to be let separately. 1-8

La., Shreveport—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., probably call for bids in few weeks for addition to post office; \$250,000; equipment about \$100,000. 7-31

N. C., Greensboro—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., probably complete plans by March 1 for \$900,000 Federal bldg., W. Market and N. Eugene Sts.; may call for bids about April 1. 1-30

N. C., Lumberton—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., erect \$105,000 post office.

Okla., Bartlesville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Feb. 24 for constr. (except elevator, etc.) of post office, court house, etc., Faith and Johnstone Sts.; \$310,000; drawings from office Supvg. Archt.

Tex., Randolph Field—Constructing Quartermaster, Capt. A. W. Parker, has low bid at \$13,244 from Robt. E. McKee, 1916 Texas St., El Paso, for elect. sub-station and gas meter house. 1-8

Tex., Randolph Field—Constructing Quartermaster, Capt. A. W. Parker, has low bid at \$194,939 from George E. Wieland Co., 106 E. 25th St., Austin, for 17 company officers' quarters, Randolph Field; John M. Marriott, Archt., Frost Natl. Bank Bldg., San Antonio. 12-25

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, has low bid at \$23,419 from U. A. Underwood, Inc., Murchison Bldg., Wilmington, N. C., for parachute bldg., paint, oil and dope house at Langley Field. 1-15

Hospitals, Sanitariums, Etc.

La., Jennings—Chamber of Commerce interested in erection of 1-story fireproof city hospital; \$20,000 to \$25,000.

La., New Orleans—Moise H. Goldstein, Archt., Amer. Bk. Bldg., have plans ready for bids in Feb. for Flint-Goodridge Hospital for negroes, as unit of proposed Dillard Memorial University; \$500,000, rein. conc. and brick, rein. conc. and pile foundation, 4 stories and basement.

La., New Orleans—Charity Hospital, Fred W. Matthews, Sec.-Treas., receives bids until Feb. 9 for piping, boiler and equipment; plans from Frank H. Chisholm, Engr., 622 S. Peters St.

Md., Baltimore—Board of Supervisors of City Charities, City Hall, receives bids Feb. 4 for alterations to Ward A. City Hospital; brick, 3 stories; Palmer & Lambdin, Archts., 513 N. Charles St.; Van Rensselaer Saxe, Struct. Engr., 217 N. Calvert St.; following contractors estimating: Charles A.

Stockhausen, Inc., 33 S. Gay St.; Mervis Construction Co., 1650 E. Fayette St.; Charles H. Henkel, 2740 Edmondson Ave.; C. W. Schmidt, Hearst Tower Bldg.; North-Eastern Construction Co., 6 W. Madison St.; E. J. Wunder, 4312 Belview Ave.; Lambert J. Eichner, 218 N. Liberty St.; Henry L. Maas & Sons, 1119 Ensor St.; Lacchi Construction Co., Munsey Bldg. 1-15

Md., Perry Point—Additional prospective estimators on N. P. convalescent bldg., U. S. Veterans Hospital, bids Feb. 3 by U. S. Veterans Bureau, Arlington Bldg., Washington, D. C.: E. T. Burrows Co. (screens), 1800 E St.; Warsaw Elevator Co., 617 F St., N. W.; Standard Art Marble & Tile Co.; Trucon Steel Co. (windows), Hill Bldg.; Johnson Metal Products Co., 2539 Pennsylvania Ave., N. W.; Crane Co., all Washington; Chas. A. Weiller (material), 617 Lexington Bldg.; Modern Engineering Co. (plumbing and heating), 107 E. Pleasant St.; Johns-Manville, Inc., Baltimore Trust Bldg.; Gurney Elevator Co., 100 Hopkins Place; P. C. Streett Engineering Co. (general), 404 St. Paul St., all Baltimore, Md.; Greenwood Electric Co. (electric), 4849 Chestnut St.; Haverstick-Borthwick Co., 1505 Race St.; Kober Construction Co., 1616 Thompson St.; Hood & Gross, Inc., 1535 Chestnut St.; Richmond & Kemp, 1932 Germantown Ave.; Ralph S. Herzog, 10 S. 18th St.; J. R. & J. A. Whelan, Inc. (general), 907 S. 49th St.; Irwin S. Grindrod Co. (general), Fuller Bldg., all Philadelphia, Pa.; Levene Electric Co., 326 North Ave., New Rochelle, N. Y.; Richmond Fireproof Door Co., Richmond, Ind.; Mesker Bros. Iron Co., 424 S. Seventh St., St. Louis, Mo.; Decatur Iron & Steel Co., Decatur, Ala.; York Lithoid Products Co., York, Pa.; Minter Homes Corp., 7030 Belclare Rd., Dundalk, Baltimore; James I. Barnes, Logansport, Ind.; Westminster Hardware Co., Westminster, Md. 1-22

Miss., Jackson—Mississippi Building Comsn., R. L. Brown, Sec., at meeting Feb. 10 will set date for receiving bids on 12 bldgs., Mississippi Insane Hospital; \$750,000; N. W. Overstreet, Archt., Standard Life Bldg., advises plans being rushed on 25 more bldgs.; total \$3,000,000; Vinson B. Smith, Advisory Archt., Gulfport. 1-8

Miss., Gulfport—Additional prospective estimators on sewage disposal plant, U. S. Veterans Hospital, bids Feb. 3 by U. S. Veterans Bureau, Arlington Bldg., Washington, D. C.: Louis Gertner, Jr., 832 E. 53rd St.; L. H. Lamont & Co., 9 S. Clinton St.; Thos. Conlin Co., 450 Oakwood Blvd.; Vagtborg Construction Co., 251 W. 79th St.; Henry B. Ryan Co., 500 N. Dearborn St.; International Filter Co., 59 E. Van Buren St., all Chicago, Ill.; A. H. Guion & Co., 256 W. Main St., Gastonia, N. C.; Alonzo B. Hayden, Inc., Pass Christian, Miss.; Mississippi Steel & Iron Co., P. O. Box 108, Jackson, Miss.; Nash Engineering Co., Barr Bldg.; Crane Co.; Mechanical Engineering & Construction Co., Mills Bldg.; Lally, Rohlader & Co., 1756 M St., N. W., all Washington; Richmond Fireproof Door Co., Richmond, Ind.; Collins Bros. Contracting Co., Inc., 313 Caillavet St., Biloxi, Miss.; V. B. Higgins & Co., 214 Kinney Bldg.; Harrison-Wright Co., 4 W. Third St.; Tucker & Laxton, Inc., 900 Independence Bldg., all Charlotte, N. C.; Continental Contracting Co., Fort Dodge, Iowa; E. G. Lawley, 712 Second St.; Hamilton Bros. & Rice Co.; A. Ziegenfelder, all Gulfport, Miss.; Mesker Bros. Iron Co., 424 S. Seventh St., St. Louis, Mo.; Decatur Iron & Steel Co., Decatur, Ala.; Smith-Pew Construction Co., 43 Irwin St., N. W.; J. B. McCrary Engineering Corp., Citizens and Southern Bank Bldg., both Atlanta, Ga.; J. M. DeFraithe, Inc., 620 State St.; Hanson & McCorkle, 2018 Dublin St.; H. N. Moody, 815 Perdido St., all New Orleans, La.; Batson-Cook Co., West Point, Ga.; W. C. Spratt, Fredericksburg, Va.; E. C. Ross, 711 E. 16th St., Oklahoma City, Okla.; Chas. M. Ewing, 2272 S. W. Fifth St., Miami, Fla.; Sanford Bros., 301 Washington Ave., Montgomery, Ala.; Morley Construction Co., 1643 Bellevue Ave.; Dickey Flush Tank Co., 200 N. Y. Life Bldg., both Kansas City, Mo.; Barnes Manufacturing Co., Mansfield, O.; Pittsburgh-Des Moines Steel Co., Neville Island, Pittsburgh, Pa., and Des Moines, Iowa; J. F. Fitzgerald Construction Co., 3 Chauncey St., Boston, Mass.; Gauger-Korsmo Construction Co., Fidelity Bldg., Memphis, Tenn.; Wehman Pump Manufacturing Co., Spruce St., Columbus, O.; Ransom & Anderson Co., Inc., 136 Liberty St., New York. 1-8

Mo., St. Louis—Bethesda Hospital, 3649 Vista Ave., Mrs. J. Herndon Smith, Pres., Bd. of Trustees, plans to raise funds for \$1,500,000 bldg., St. Louis County; campaign probably start in 1932; probably accommodate 250; Smith & Gauger, 317 N. 11th St., St. Louis, and Pond & Pond, Martin & Lloyd, 108 N. Michigan Ave., Chicago, Ill., architects; Dr. Wm. H. Walsh, Consultant, 612 N. Michigan Ave., Chicago.

Md., Baltimore—Fairmount Mill and Lumber Co.'s storage building, 1426 E. Fairmount Ave.; loss \$15,000, including lumber.

Miss., Aberdeen—Miss Mary Glasscock's building, occupied by H. A. Claxton's store and meat market; loss \$10,000.

Miss., Columbus—Kaufman Brothers' Department Store; loss \$50,000.

Miss., Tunica—E. L. Draughton's residence; loss \$17,000.

Mo., Cardwell—Hamra & Fiesal Department Store; loss \$15,000.

Mo., Centertown—Residence of Cleo McNay near Centertown, owned by Prudential Life Insurance Co., Jefferson City.

Mo., St. Louis—Plant of Shepard Baking Powder Co., 311 N. Main St.; loss \$20,000.

Okla., Frederick—First Baptist Church; loss \$100,000.

Tenn., Dyersburg—Finley Cotton Gin, owned by J. H. Robbins.

Tex., Cleveland—Anderson Bros. Department Store; loss \$25,000.

Tex., Corsicana—Fortson Bros.' store; loss \$100,000.

Tex., Corpus Christi—A. C. Erwin's residence, Oak Park; loss \$13,000.

Tex., Cuero—Tudzin Dry Goods Co.'s store, building owned by Jake Grossman, Joiner, Ark.; local office of Central Power and Light Co., Frost Natl. Bank Bldg., San Antonio; loss \$60,000.

Tex., Houston—Home Trade Shoe Store, 311 Travis St.; loss \$40,000.

Tex., Tuscola—Plant of Dickerson Motor Co.; loss \$25,000.

Va., Salem—Salem High School; loss \$100,000; Roland E. Cook, Roanoke County Supt. of Schools.

Va., Norfolk—Warehouse of Virginia Wood Products Co., Westminster Ave. near Thayer St.; Farmers' Manufacturing Co.'s warehouse, Calvert St. near Landing St.; loss \$25,000.

W. Va., Richwood—Oakwood Theater Bldg., housing theater, Richwood Drug Store, Hanlin Five and Ten Cent Store and warerooms of Hope Natural Gas Co.; loss \$50,000.

Co., Biltmore Ave., all Asheville; L. S. Costner, Cherryville; E. W. Wagner, Salisbury.

Tex., Port Arthur—Trinity Methodist Church, South, Rev. B. B. Byus, Pastor, plans building.

City and County

Ga., Calhoun—City, F. L. Hicks, Mayor, having plans drawn by Jas. T. Mitchell, Archt., 140 Peachtree St., Atlanta, for brick city hall; 2 stories and basement; probably go forward in April. 12-11

La., Jennings—Jefferson Davis Parish Police Jury plans addition to jail; accommodate 20.

La., Hahnville—St. Charles Parish Police Jury extended date for receiving bids for \$75,000 jail; Wm. R. Burk, Archt., Balter Bldg., New Orleans; following contractors estimating: H. A. Pallfelt, Balter Bldg.; J. A. Haase, Jr., 916 Union St.; Reilly-Ruckstuhl, Inc., 423 Carondelet St.; J. A. Petty & Sons, Inc., Audubon Bldg.; Wm. Wallace, Pere Marquette Bldg.; Gitz Construction Co., Balter Bldg.; J. V. & R. T. Burkes, Inc., Amer. Bk. Bldg.; R. H. Ketteringham, 1128 Jena St., all New Orleans; R. L. Roland & Son, 1908 Lee St., St. Louis, Mo.; Southern Prison Co., 4500 Presa St., San Antonio, Tex.; Fries & Son Steel Construction & Engineering Co., Covington, Va. 12-18

La., Pineville—City, R. C. Lawrence, Mayor, has low bid at \$23,945 from Tudor & Ratcliff, Commercial Bank Bldg., Alexandria, for city hall, jail and fire station bldg.; C. Errol Barron, Archt., Haas Bldg., Alexandria. 1-15

Md., Baltimore—Public Improvement Comsn. erect \$40,000 fire station, vicinity of Brehm's Lane and Belair Rd.

N. C., Winston-Salem—Forsyth County Bd. of Commrs. may erect \$150,000 jail; plans by Hall Crews, Archt., Reynolds Bldg.; special act prepared authorizing the work by the Legislature.

Okla., Stroud—City, Hugh McConnell, Clk., erect \$15,000 city hall; brick and conc., 1 story; The Butler Co., Archt., Insurance Bldg., Oklahoma City; bids in.

Tenn., Memphis—Shelby County Comsn., E. W. Hale, Chmn., rejected bids for women's prison and laundry bldg., Shelby County Penal Farm, Mullins Station; 1 story, conc., 169x125 ft. and 118x65 ft.; new bids Feb. 3; \$80,000; Hanker & Cairns, Archts., 123 S. Court St.

Tex., Columbus—City, R. Lee Hastedt, City Mgr., receives bids Feb. 16 for city hall and fire station; brick, stone and rein. conc., 2 stories, about 57x52 ft., conc. and tile floors, tile roof, steel sash, metal lath and plaster; L. M. Wirtz, Archt., 1308 Blodgett Ave., Houston. 12-11

Tex., Lubbock—Lubbock County Bd. of Commrs., E. L. Pitts, Judge, may erect jail; S. B. Haynes, Archt., drawing plans for new structure; may move present bldg. instead of building.

Tex., Menard—Menard County Bd. of Commrs., Joe Matthews, County Judge, probably receive bids about March 1 for \$100,000 to \$120,000 court house; Withers & Thompson, Archts., 202 Holmes Bldg., Fort Worth. 1-8

Tex., Corpus Christi—Nueces County Comms. Court rejected bids for jail equipment for courthouse annex under constr. (contract lately noted let); readvertised for bids for Feb. 14; Dielmann & Levy, Archts.-Engrs. State Natl. Bk. Bldg.; Geo. H. Belote Construction Co., Contr., City Natl. Bk. Bldg., Corpus Christi. 1-15

Tex., Wellington—Collingsworth County, Edw. Brown, County Judge, votes Feb. 21 (lately noted Feb. 14) on \$175,000 court house bonds. 1-22

Tex., Wharton—City voted \$25,000 city hall bonds. 1-15

Va., Richmond—Committee on Public Buildings, Properties and Utilities, E. S. Bolen, Asst. City Clk., at Jan. 22 meeting ordered matter of erecting \$35,000 temporary office bldg. referred to Director of Public Works; report and recommendation will probably be made at next Committee meeting, Feb. 26. 12-11

Dwellings

Ark., Little Rock—J. A. Burdell & Son, 823 Rector St., erect \$6500 duplex and \$4000 dwelling, 600 block E. 21st St.

D. C., Washington—Alfred T. Newbold, 5626 Connecticut Ave., N. W., erect dwelling, 2741 Brandywine St., N. W., after plans by C. W. Norton, Archt.; 2 stories, \$15,000.

D. C., Washington—Raymond T. Baker, Wardman Park Hotel, reported erect \$500,000 residence, Foxhall Rd., N. W.; stone

BUILDING NEWS

BUILDINGS PROPOSED

Association and Fraternal

Ala., Montgomery—Masonic Home, E. W. C. Yarbrough, Chmn., erect \$18,000 nursery; brick, 1-story, 80 x 57 ft.; Denham & Denham, Archts., Comer. Bldg., Birmingham; bids in.

La., New Orleans—City repair American Legion bldg., Royal and Conti Sts., recently damaged by fire; plastering, elect. wiring, steel work, built-up comp. roof; \$20,000; M. B. DePass, City Archt.; plans ready for bids in about 2 weeks.

La., Woodville—Ancient Free and Accepted Masons ready for bids in about 115 days for \$35,000 temple, store and office bldg.; rein. conc. and brick, 2 stories, 82x64 ft., rein. conc. foundation, built-up comp. roof, struct. steel and iron work, steel sash, wood and conc. floors, plate glass windows, sheet metal work; water- and dampproofing; Robt. H. Goodman, Archt., Bank of Baton Rouge Bldg., Baton Rouge.

Tex., Sterling City—Ancient Free and Accepted Masons plans temple.

Va., Richmond—United Daughters of Confederacy, Mrs. A. J. Montague, Pres., Bd. of Mgrs. of Home for Needy Confederate Women, receives bids Feb. 4 for \$350,000 Home; 420x75 ft., limestone exterior, main section 3 stories, two 1-story wings, solarium, 100 bedrooms, about 50 lavatories, automatic and manual elevators, dining rooms, kitchen, diet kitchens, infirmary, memorial hall; Lee, Smith & VanDervoort, Archts., Sixth and Franklin Sts.; following contractors estimating: John T. Wilson Co., Inc., Mutual Bldg.; Allen J. Saville, Inc., Electric Bldg.; Wise Granite & Construction Co., American Bank Bldg.; Claiborne & Taylor. 7-10

Bank and Office

Ala., Birmingham—Alabama Power Co., J. M. Barry, Vice-Pres. in Charge of Operation, will make improvements to office buildings during 1931.

D. C., Washington—Standard Oil Company of New Jersey, 241 Pennsylvania Ave., N. W., receives bids Feb. 12 at office Clyde N. & Nelson Friz, Archts., Lexington Bldg., Baltimore, Md., for office and garage bldg.; \$1,000,000, steel frame, conc. floors, stone, 6 stories and basement, 71x335 ft., with 200x20-ft. court in rear above second floor; Lynn Rosebrook, company archt., 26 Broadway, New York; Herman F. Doeleman, Struct. Engr., Balto. Trust Bldg.; Reeder, Elzer & Akers, Mech. Engrs., 916 N. Charles St., both Baltimore; following contractors estimating: M. A. Long Co., 10 W. Chase St.; J. Henry Miller, Inc., 405 W. Franklin St., both Baltimore; Skinner & Garrett, 1719 Eye St., N. W.; Loudoun Rust Co., Dist. Natl. Bank Bldg.; Charles H. Tompkins Co., 1608 K St., N. W.; James Baird Co., Inc., 1800 E St., N. W., all Washington, D. C.; Thompson-Starrett Co., 250 Park Ave.; George A. Fuller Co., Fuller Bldg.; James Stewart & Co., Inc., 230 Park Ave., all New York; Karno-Smith Co., Trenton, N. J.; Irwin & Leighton, 1505 Rose St., Wark Co., 1608 Walnut St., both Philadelphia, Pa. 1-15

Ga., Atlanta—United Corp., Candler Bldg., has low bid at \$143,499 from Griffin Construction Co., 452 Spring St., N. W., for alterations and additions to bldg., Broad, Luckie and Forsyth Sts.; A. Ten Eyck Brown, Archt.; A. Barili, Jr., Asso. Archt.; Robt. G. Lose, Struct. Engr., all Forsyth Bldg. 1-8

D. C., Washington—Additional prospective estimators on American Red Cross office bldg., bids Feb. 6 by Office of Public Buildings and Public Parks, Room 1031, Navy Bldg.; Cramp Co., Denckle Bldg., Philadelphia, Pa.; Geo. Hyman Construction Co., 1010 Vermont Ave., N. W.; Boyle-Robertson, Inc., Evans Bldg.; Arthur L. Smith & Co., 2539 Pennsylvania Ave., N. W.; M. Shapiro & Son, 1427 I St., N. W.; National Construction Co., 631 Tower Bldg.; W. P. Rose Co., P. O. Box 1522; Skinner & Garrett, 17 I St., N. W., all Washington; James A. Stewart & Co., 230 Park Ave.; Thos. G. Sperling Co., 103 Park Ave., both New York; Ring Construction Co., 808 Wesley Temple Bldg., Minneapolis, Minn.; S. & W. Construction Co., Shrine Bldg., Memphis; Hunkin-Conkey Construction Co., Hunkin-Conkey Bldg., Cleveland, Ohio; Consolidated Engineer. Co., Inc., St. Paul and Franklin Sts.; Frairie Bros., 19 Wt. Franklin St.; P. C. Streett Engineering Co., 404 St. Paul St., all Baltimore, Md. 1-22

Okla., Oklahoma City—W. S. Key, Perrine Bldg., let contract to Harmon & Mattison Const. Co., Insurance Bldg., to remodel second and third floors of former Elks Bldg.; \$35,000; J. I. Davis, Archt. 12-25

Tex., Dallas—Central Property Owners' Assn., Martin Weiss, Pres., 911 Elm St., interested in erection of office bldg. west of Akard St., for lawyers.

Tex., Harlingen—Farm and Home Building & Loan Assn., A. E. McLellan, Valley Mgr., erect 1-story tile and stucco administration bldg. on Adams tract, 4 miles from Harlingen; receiving bids; following contractors estimating: J. N. Meeks, J. W. Jones, E. H. Buck, Ramsey Bros., Frank Hardin, Beck Lumber Co., South Texas Lumber Co., Smith & Galbraith, Smith & Poole, all Harlingen; D. W. Kennedy, San Benito; George B. Hoffman, Mercedes.

Churches

Ga., Brunswick—McKendree Methodist Church, W. H. Greenfield, member, Bldg. Comm., erect Sunday school building.

La., Thibodaux—St. Josephs R. C. Church raising funds for building.

Miss., Bonita—Oak Grove Baptist Church, J. A. Pigford, Chmn., Bldg. Comm., Russell, erect \$20,000 bldg.; brick, 1 story and basement; P. J. Krouse, Archt., M. & W. Bldg., Meridian; bids in.

N. C., Asheville—Lutheran Church receives bids Feb. 7 for brick bldg.; conc. foundation, comp. roof; Lord & Lord, Archts., 17 Church St.; following contractors estimating: McDowell & Garland; John Shytle, Westwood Road, Lakeview Park; Robinson Bros., Inc., Arcade Bldg.; Dion A. Roberts, 17 Church St.; L. L. Merchant Construction

and brick, 2½ stories; Horace Trumbauer, Archt., Land Title Bldg., Philadelphia, Pa.

D. C., Washington—G. T. Summerlin, care W. C. Waggoner, Archt., 1223 Connecticut Ave., N. W., remodel residence, 3147 P St., N. W.; drawing plans.

D. C., Washington—R. B. Warren, Connecticut Ave. and Sedgewick St., erect dwelling, 3255 Patterson St., N. W., after plans by Harry L. Edwards, Archt.; \$10,000, stone and stucco, 2 stories. 1-15

D. C., Washington—D. Wendell Phillips erect 3 dwellings, 5312-20 32nd St., N. W., after plans by Geo. T. Santmyers, Archt., 1416 I St., N. W.

D. C., Washington—A. C. Holmes erect residence, 349 Quesada St., N. W., after plans by Julius Wenig, Archt., Edmonds Bldg.

D. C., Washington—G. W. Chase, 415 Cedar St., N. W., erect dwelling, 6224 Piney Branch Rd., N. W.; plans by owner.

D. C., Washington—Thomas A. Jameson Co., 906 New York Ave., erect 6 dwellings, 401 16th St. and 1602-10 D St., N. E., after plans by Geo. T. Santmyers, Archt., 1416 I St., N. W. 1-15

D. C., Washington—Geoffrey Parsons, 150 E. 61st St., New York, erect \$28,000 residence, 2220 R St., N. W., after plans by John J. Whelan, Archt., 1147 Conn. Ave., N. W., Washington; brick, 3 stories 1-8

D. C., Washington—J. J. James, 1226 14th St., N. W., erect 6 brick and frame dwellings, 415-29 Nicholson St., N. W.; 2 stories; \$45,000.

D. C., Washington—Azel M. Sheppard, Bond Bldg., erect \$10,000 brick residence, 5425 Thirty-first St., N. W.; 2 stories.

Fla., Miami Beach—V. H. Nellenbogen, Archt., 925 Lincoln Rd., drawing plans for dwelling.

Ga., Atlanta—Mrs. W. P. Romberger, Austell Way, about ready for bids for \$15,000 brick veneer residence, Habersham Rd.; 2 stories and basement, 25x60 ft., 3 baths, hardwood and tile floors, metal and slate roof; Owen J. Southwell, Archt., Powers Ferry Rd.; following will estimate: Gilbert Beers, Bona Allen Bldg.; Donald Melver; Stratton Hard, 289½ Peachtree St., N. E.; W. F. Kinney, 1655 Flat Shoals Ave.; Norwood Griffin Co., Bona Allen Bldg. 1-15

Ga., Atlanta—Harry Callaway, care Callaway Mills, Rhodes Haverly Bldg., plans residence, Woodward Way, Peachtree Heights; brick veneer, 1 or 2 stories, hardwood and tile floors, steam heat.

Ga., Austell—Clark Thread Co., John B. Clark, Pres., Newark, N. J., reported, receives bids Feb. 10 for about 75 operatives' cottages; J. E. Sirlane & Co., Engrs., Greenville, S. C. 1-8

Ga., Baxley—Mrs. J. E. Overstreet plans to rebuild residence.

Ga., Savannah—Richard A. Brimm, Ch. Clk., Office of Supt. of Transportation, Central of Georgia Ry., purchased site, 52nd St. near Reynolds St.; plans residence in Spring.

La., Many—S. H. Porter, Pres., S. H. Porter Hdw. Co., Many and Zwolle, erect residence, San Antonio Ave.

Mo., St. Louis—F. S. Wlemeyer, 2025 Locust St., purchased 60 acres, Meramec River, Highway 66; plans completed for residence.

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structing Quartermaster, Capt. M. A. McFadden, receives bids Feb. 20 for hospital and detachment barracks; fire station and guard-house and post exchange; tile, brick, stucco, conc. foundation, comp. and tile roofs. 1-22

Ark., North Little Rock, Little Rock—Camp Pike Honorary Comsn., Col. John R. Fordyce, Little Rock, receiving bids for \$100,000 recreational center, Camp Pike, including \$50,000 auditorium and \$45,000 swimming pool; conc., hollow tile and steel; auditorium 62x140 ft., seat 1400, hardwood floors, pool 50x150 ft., rein. conc., 3 to 10 ft. deep, underwater lights; dressing rooms, shower baths; Thompson, Sanders & Ginocchio, Archts., Hall Bldg., Little Rock. 12-4

Fla., Kissimmee—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Feb. 17 for post office, etc.; \$80,000; drawings from office Supvg. Archt. 1-8

Ky., Lexington—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., advises design of bldgs. for Narcotic Farm not yet fully developed; \$5,000,000. 10-16

Ky., Madisonville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Feb. 26 for post office, etc.; drawings from office Supvg. Archt.

La., Baton Rouge—Quartermaster, Fort McPherson, Ga., Col. F. H. Burton, expects to soon call for bids for lodge at National Cemetery.

La., New Orleans—Department of Justice, Sanford Bates, Director, Bureau of Prisons, Washington, D. C.; Diboll & Owens, Ltd., Archts., Canal Bldg., New Orleans, have plans ready for bids in about 10 days to convert old Mint Bldg. for Federal prison: accommodate 300; new partitions, steam heat, new wiring, plastering, carpentry, sheet metal work, cement paving, steel windows, waterproofing, etc.; jail equipment to be let separately. 1-8

La., Shreveport—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., probably call for bids in few weeks for addition to post office; \$250,000; equipment about \$100,000. 7-31

N. C., Greensboro—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., probably complete plans by March 1 for \$900,000 Federal bldg., W. Market and N. Eugene Sts.; may call for bids about April 1. 1-30

N. C., Lumberton—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., erect \$105,000 post office.

Okla., Bartlesville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids in duplicate Feb. 24 for constr. (except elevator, etc.) of post office, court house, etc., Faith and Johnstone Sts.; \$310,000; drawings from office Supvg. Archt.

Tex., Randolph Field—Constructing Quartermaster, Capt. A. W. Parker, has low bid at \$13,244 from Robt. E. McKee, 1916 Texas St., El Paso, for elect. sub-station and gas meter house. 1-8

Tex., Randolph Field—Constructing Quartermaster, Capt. A. W. Parker, has low bid at \$194,939 from George E. Wieland Co., 106 E. 25th St., Austin, for 17 company officers' quarters, Randolph Field; John M. Marriott, Archt., Frost Natl. Bank Bldg., San Antonio. 12-25

Va., Langley Field, Hampton—Constructing Quartermaster, Fort Monroe, has low bid at \$23,410 from U. A. Underwood, Inc., Murchison Bldg., Wilmington, N. C., for parachute bldg., paint, oil and dope house at Langley Field. 1-15

Hospitals, Sanitariums, Etc.

La., Jennings—Chamber of Commerce interested in erection of 1-story fireproof city hospital; \$20,000 to \$25,000.

La., New Orleans—Moise H. Goldstein, Archt., Amer. Bk. Bldg., have plans ready for bids in Feb. for Flint-Goodridge Hospital for negroes, as unit of proposed Dillard Memorial University; \$500,000, rein. conc. and brick, rein. conc. and pile foundation, 4 stories and basement.

La., New Orleans—Charity Hospital, Fred W. Matthews, Sec.-Treas., receives bids until Feb. 9 for piping, boiler and equipment; plans from Frank H. Chisholm, Engr., 622 S. Peters St.

Md., Baltimore—Board of Supervisors of City Charities, City Hall, receives bids Feb. 4 for alterations to Ward A, City Hospital; brick, 3 stories; Palmer & Lambdin, Archts., 513 N. Charles St.; Van Rensselaer Saxe, Struct. Engr., 217 N. Calvert St.; following contractors estimating: Charles A.

Stockhausen, Inc., 33 S. Gay St.; Mervis Construction Co., 1650 E. Fayette St.; Charles H. Henkel, 2740 Edmondson Ave.; C. W. Schmidt, Hearst Tower Bldg.; North-Eastern Construction Co., 6 W. Madison St.; E. J. Wunder, 4312 Belview Ave.; Lambert J. Eichner, 218 N. Liberty St.; Henry L. Maas & Sons, 1119 Ensor St.; Lacchi Construction Co., Munsey Bldg. 1-15

Md., Perry Point—Additional prospective estimators on N. P. convalescent bldg., U. S. Veterans Hospital, bids Feb. 3 by U. S. Veterans Bureau, Arlington Bldg., Washington, D. C.: E. T. Burrows Co. (screens), 1800 E St.; Warsaw Elevator Co., 617 F St., N. W.; Standard Art Marble & Tile Co.; Truscott Steel Co. (windows), Hill Bldg.; Johnson Metal Products Co., 2539 Pennsylvania Ave., N. W.; Crane Co., all Washington; Chas. A. Weiller (material), 617 Lexington Bldg.; Modern Engineering Co. (plumbing and heating), 107 E. Pleasant St.; Johns-Manville, Inc., Baltimore Trust Bldg.; Gurney Elevator Co., 100 Hopkins Place; P. C. Street Engineering Co. (general), 404 St. Paul St., all Baltimore, Md.; Greenwood Electric Co. (electric), 4849 Chestnut St.; Haverstick-Borthwick Co., 1505 Race St.; Kober Construction Co., 1616 Thompson St.; Hood & Gross, Inc., 1535 Chestnut St.; Richmond & Kemp, 1932 Germantown Ave.; Ralph S. Herzog, 10 S. 18th St.; J. R. & J. A. Whelan, Inc. (general), 907 S. 49th St.; Irvin S. Grindrod Co. (general), Fuller Bldg., all Philadelphia, Pa.; Levene Electric Co., 326 North Ave., New Rochelle, N. Y.; Richmond Fireproof Door Co., Richmond, Ind.; Mesker Bros. Iron Co., 424 S. Seventh St., St. Louis, Mo.; Decatur Iron & Steel Co., Decatur, Ala.; York Lithoid Products Co., York, Pa.; Minter Homes Corp., 7030 Belclare Rd., Dundalk, Baltimore; James I. Barnes, Logansport, Ind.; Westminster Hardware Co., Westminster, Md. 1-22

Miss., Jackson—Mississippi Building Comsn., R. L. Brown, Sec., at meeting Feb. 10 will set date for receiving bids on 12 bldgs., Mississippi Insane Hospital; \$750,000; N. W. Overstreet, Archt., Standard Life Bldg., advises plans being rushed on 25 more bldgs.; total \$3,000,000; Vinson B. Smith, Advisory Archt., Gulfport. 1-8

Miss., Gulfport—Additional prospective estimators on sewage disposal plant, U. S. Veterans Hospital, bids Feb. 3 by U. S. Veterans Bureau, Arlington Bldg., Washington, D. C.: Louis Gertner, Jr., 832 E. 53rd St.; L. H. Lamont & Co., 9 S. Clinton St.; Thos. Conlin Co., 450 Oakwood Blvd.; Vagborg Construction Co., 251 W. 79th St.; Henry B. Ryan Co., 500 N. Dearborn St.; International Filter Co., 59 E. Van Buren St., all Chicago, Ill.; A. H. Gulon & Co., 256 W. Main St., Gastonia, N. C.; Alonzo B. Hayden, Inc., Pass Christian, Miss.; Mississippi Steel & Iron Co., P. O. Box 108, Jackson, Miss.; Nash Engineering Co., Barr Bldg.; Crane Co.; Mechanical Engineering & Construction Co., Mills Bldg.; Lally, Rohlader & Co., 1756 M St., N. W., all Washington; Richmond Fireproof Door Co., Richmond, Ind.; Collins Bros. Contracting Co., Inc., 313 Callavet St., Biloxi, Miss.; V. B. Higgins & Co., 214 Kinney Bldg.; Harrison-Wright Co., 4 W. Third St.; Tucker & Laxton, Inc., 900 Independence Bldg., all Charlotte, N. C.; Continental Contracting Co., Fort Dodge, Iowa; E. G. Lawley, 712 Second St.; Hamilton Bros. & Rice Co.; A. Ziegenfelder, all Gulfport, Miss.; Mesker Bros. Iron Co., 424 S. Seventh St., St. Louis, Mo.; Decatur Iron & Steel Co., Decatur, Ala.; Smith-Pew Construction Co., 43 Irwin St., N. W.; J. B. McCrary Engineering Corp., Citizens and Southern Bank Bldg., both Atlanta, Ga.; J. M. DeFraithe, Inc., 620 State St.; Hanson & McCorkle, 2018 Dublin St.; H. N. Moody, 815 Perdido St., all New Orleans, La.; Batson-Cook Co., West Point, Ga.; W. C. Spratt, Fredericksburg, Va.; E. C. Ross, 711 E. 16th St., Oklahoma City, Okla.; Chas. M. Ewing, 2272 S. W. Fifth St., Miami, Fla.; Samford Bros., 301 Washington Ave., Montgomery, Ala.; Morley Construction Co., 1643 Bellevue Ave.; Dickey Flush Tank Co., 200 N. Y. Life Bldg., both Kansas City, Mo.; Barnes Manufacturing Co., Mansfield, O.; Pittsburgh-Des Moines Steel Co., Neville Island, Pittsburgh, Pa., and Des Moines, Iowa; J. F. Fitzgerald Construction Co., 3 Chauncey St., Boston, Mass.; Gauger-Korsmo Construction Co., Fidelity Bldg., Memphis, Tenn.; Weinman Pump Manufacturing Co., Spruce St., Columbus, O.; Ransom & Anderson Co., Inc., 136 Liberty St., New York. 1-8

Mo., St. Louis—Bethesda Hospital, 3649 Vista Ave., Mrs. J. Herndon Smith, Pres., Bd. of Trustees, plans to raise funds for \$1,500,000 bldg., St. Louis County; campaign probably start in 1932; probably accommodate 250; Smith & Gauger, 317 N. 11th St., St. Louis, and Pond & Pond, Martin & Lloyd, 108 N. Michigan Ave., Chicago, Ill., architects; Dr. Wm. H. Walsh, Consultant, 612 N. Michigan Ave., Chicago.

N. C., Asheville—Randolph County Hospital, D. B. McCrary, Chmn., Bldg. Comm., erect \$75,000 hospital; fireproof, steel joist, 3 stories, 140.8x40.8 ft., comp., rubber, cement and tile floors, conc. foundation, 20-yr. roof; furnishings, equipment, etc., \$25,000; Eric G. Flannagan, Archt., Henderson; plans started, probably open bids during March. Address Mr. McCrary. 1-22

N. C., Elizabeth City—Albemarle Hospital, W. O. Saunders, Pres., remodel bldg.; \$15,000; Geo. R. Berryman, Archt., 102 W. Hargett St., Raleigh. 9-18

Okl., Elk City—Community Hospital Assn. ready for bids in week or so for \$35,000 hospital; brick, stone and rein. conc., 2 stories; Edw. Peters, Archt., Shawnee; excavation contract previously noted. 12-11

Tenn., Luling—Dr. Clay Nichols has low bid at \$18,944 from Dick McGaffey, Luling, for drug store and hospital bldg.; Wilson & Werner, Archts., Milam Bldg., San Antonio. 11-27

Tenn., El Paso—El Paso County defeated \$550,000 hospital bonds; Trost & Trost, Archts., Two Republics Bldg. 12-18

Tenn., Waco—Prospective estimators on \$1,500,000 U. S. Veterans Hospital, bids in triplicate Feb. 21 by U. S. Veterans Bureau, Arlington Bldg., Washington, D. C.; General A. J. Rife Construction Co., 1913 N. Harwood St.; L. H. Lacy, 202 Burt Bldg.; Central Contracting Co., 1242 Athletic Club Bldg.; Christy-Dolph Construction Co., Construction Indus. Bldg., all Dallas, Tex.; S. B. Swigert Co.; J. S. Harrison Construction Co.; Wm. Smith, P. O. Box 1189; J. E. Johnson Construction Co., all Waco; W. P. Thurston Co., Richmond, Va.; S. & W. Construction Co., Memphis, Tenn.; Ralph Sollitt & Sons Construction Co., 518 E. Sample St., South Bend, Ind.; James I. Barnes, Springfield, O.; Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala.; J. P. Cullen & Son, 109 S. Main St., Janesville, Wis.; Joseph E. Morgan & Sons, 319 Texas St.; Robert E. McKee, 1900 Texas St., both El Paso, Tex.; Quisile & Andrews, 2212 W. Seventh St.; R. F. Ball Construction Co., 511 Electric Bldg.; James T. Taylor, Aviation Bldg., all Fort Worth, Tex.; Mitty Bros. Construction Co., 722 Detwiler Bldg., Los Angeles, Calif.; Henry B. Ryan Co., 500 N. Dearborn St.; B-W Construction Co., 720 N. Wabash Ave.; Carl Westberg & Co., 623 S. Oakley St., all Chicago, Ill.; Bracker Construction Co., 752 Builders Exch.; Ring Construction Co., 808 Wesley Temple Bldg., both Minneapolis, Minn.; Edward S. Moore & Son, 610 N. Washington St., Kokomo, Ind.; Olson Construction Co., 704 Stuart Bldg., Lincoln, Neb.; Batson-Cook Co., West Point, Ga.; Ideal Construction Co., 515 W. Fifth Ave., Gary, Ind.; Ashton Glassell Co., Inc., P. O. Box 1393, Shreveport, La.; Virginia Engineering Co., Inc., First Natl. Bk. Bldg., Newport News, Va.; Murch Bros. Construction Co., Ry. Exch. Bldg., St. Louis, Mo.; R. P. Farnsworth & Co., Inc., Maritime Bldg., New Orleans, La.; William Wilby, Selma, Ala.; Plumbing & Heating Co., Florence, S. C.; 109 W. Jefferson Ave.; Charles M. Ewing, 32 Santillane Ave., Miami, Fla.; Bryce Plumbing & Heating Co., Florence, S. C.; George H. Wentz, 1309 N. St., Lincoln, Neb.; G. C. Wilcox Co., Inc., 500 W. Short St., Lexington, Ky.; Robinson Bros., 214 W. Barr St., Pine Bluff, Ark.; H. Kelly & Co., Northwest Bank Bldg., Minneapolis; B. Grunwald, Inc., 1110 Farnham St., Omaha, Neb.; Heating and Ventilating—C. A. Hooper Co., Madison, Wis. 1-22

Hotels and Apartments

Ark., Jonesboro—Hotel Noble, Crawford Noble, Mgr., Main and Jackson Sts., has plans by Estes W. Mann, Cotton Exchange Bldg., Memphis, Tenn., and plans to let contract soon for addition and remodeling hotel; \$200,000, 5 stories, 90x112 ft., brick and rein. conc., comp. roof, stone trim, 175 rooms, roof garden, auditorium, banquet room to seat 800 to 1000 people, stores on ground floor. 6-19

Ark., Hardy—D. Hurd Hudson, Bank of Commerce Bldg., having preliminary plans prepared by Raymond B. Spencer, Court Square Bldg., both Memphis, Tenn., for \$100,000, one or two-story, brick, stone, rock, fireproof hotel. 11-13

Mo., Joplin—Manhattan Construction Co., Manhattan Bldg., Muskogee, Okla., recently reported as ready to finance erection of \$750,000, 12-story hotel and medical arts building previously held in abeyance advises: "Plans on this building have never been completed and nothing will be done until later in the Spring"; A. C. Wiser, Archt., R. A. Long Bldg., Kansas City. 11-13

Mo., St. Louis—Thomas M. Pierce, V-P., Terminal R. R. Assn., and John Lawrence Mauran, of Mauran, Russell & Crowell, Archts.,

Chemical Bldg., promoting organization of holding corporation for development of Vandeventer place as midtown center of apartments. 1-22

Mo., St. Louis—City College of Law and Finance plans 45-story hotel, Olive and 14th Sts., according to Bert Boaz, V-P., of Boaz-Kiel Construction Co., which has been assisting in its promotion; City College plans to occupy several floors; College previously proposed 25-story office building for the corner. 1-22

Mo., St. Louis—Joe Berkowitz, 7433 Cromwell Drive, erect \$12,000, 2-story, 31x70 ft., brick flat, 434 S. Hanley Road; slate roof, oil burner heat; Ben J. Shapiro, Archt., Synd. Trust Bldg. 1-22

Tenn., Memphis—J. C. Wilbur, 953 S. Third St., having plans prepared by Raymond B. Spencer, Court Square Bldg., for 2-story, brick, 4-apartment, Forrest Ave.; comp. roof, oak floors. 1-22

Tenn., Henderson—Recent contemplated addition to Hotel Randolph probably will be carried through shortly by Louisiana-Arkansas Hotel Co. (Floyd R. Hodges, 660 Stoner Ave., and Jack Tullos, Youree Motel, Shreveport, La., and G. W. James, El Dorado, Ark.); \$175,000; plans by Jones, Roessle, Olschner & Weiner, Ardis Bldg., Shreveport. 11-6

Va., Roanoke—W. C. Turner, 131 Campbell Ave., S. W., and associates rebuild Hotel Ponce de Leon, Campbell Ave. and Commerce St., recently damaged by fire at loss \$200,000; 192x100 ft., 200 rooms. 1-22

Miscellaneous

Mo., St. Louis—Kutis Undertaking Co., Thos. F. Kutis, 2906 Gravois Ave., ready for bids for \$50,000, 2-story and basement, brick and conc. undertaking parlor, Gravois Ave. and Crittenden St.; comp. roof, steam heat; Rudolph Weisberger, Archt., 2043 Allen Ave. 11-20

Tenn., San Antonio—S. Legare Bethae, care Adams & Adams, Archts., Western Natl. Bldg., erect one-story, 33x27 ft., frame and stucco stable. 1-22

Schools

Ala., Auburn—Bd. of Education, J. R. Rutland, has low bid at \$115,897 from Snellings Lumber Co., Phenix City, for 2-story and basement, brick, struc. steel, stone trim school; comp. roof; plans by A. F. Dittmar, State Dept. of Education, Montgomery. 11-12

Ark., Blevins—Blevins Special School Dist. Bd. of Directors erect school building; plans by State Dept. of Education, C. M. Hirst, Statehouse, Little Rock. 1-15

Ark., Bradford—Bradford Special School Dist., U. L. Hickman, Pres., having plans prepared by Erhart & Eichenbaum, Archts., Gem Bldg., Little Rock, for \$40,000, 2-story, 50x130 ft., brick and steel school. 1-15

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Dept., Dist. Bldg., have low bid at \$92,857 from Skinner & Garrett, 1719 I St., N. W., for 4-room addition to Deanwood School; A. L. Harris, Municipal Archt., Dist. Bldg. 1-15

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Dept., Dist. Bldg., receives bids Feb. 6 for addition, including ten classrooms and two gymnasiums, also necessary alterations for same, to Stuart Junior High School; contents 584,682 cu. ft.; apply at Room 427, Dist. Bldg., for proposals, specifications and drawings. 1-22

Fla., Fessenden—American Missionary Assn., 287 Fourth Ave., New York, has plans by George Awsumb, Derrmon Bldg., Memphis, Tenn., for \$75,000, 1-story and basement, 193x114 ft. building at Fessenden Academy on Dixie Highway; native stone with alternate on brick and hollow tile; bids in. 8-14

Ga., Atlanta—Fulton County considering voting on school bonds. 1-22

Ga., Savannah—Chatham County Bd. of Education, O. B. Strong, Supt., receiving bids, date not set, for first unit of Junior High School in Chatham Crescent; \$125,000, 2 stories, rein. conc., brick and tile; comp. roof, stone trim; following estimating: Olaf Otto, 412 E. Bay St.; R. J. Whalley, 404 E. Bay St.; The Artley Co., 504 E. Bay St.; E. Morgan, 1102 Ott St., all Savannah; Levy & Clarke, Archts., Blum Bldg.; Cletus Bergen, Conslt. Archt., Liberty Bank & Trust Bldg. 11-20

Ky., Frankfort—Franklin County Bd. of Education, N. J. Parsons, Supt., selected W. S. Cryer to prepare plans for \$45,000 school in Bridgeport Consolidated School Dist.; district votes soon on \$25,000 bonds; if bonds carry, Franklin County will supplement \$20,000. 1-22

Ky., Morehead—Morehead Consolidated School Dist. Trustees plan rebuilding grade and high school noted burned at loss \$25,000. 1-22

La., Marrero—Roman Catholic Diocese of New Orleans has low bid at \$72,263 from Geo. J. Glover Co., Inc., Whitney Bank Bldg., New Orleans, for 2-story, 128x135 ft., brick, stucco and stone trim, Doctor Marcus Flengold Memorial, Mechanical and Arts Bldg. at Hope Haven Mechanical and Industrial School; comp., built-up and arch roof, gas steam heat, marble, tile, wood, cellized wood and cement floors; A. S. Montz, Archt., 740 Poydras St., New Orleans. 1-22

La., New Orleans—Louisiana State University, Dr. J. M. Smith, Pres., Baton Rouge, selected Weiss, Dreyfous & Seifert, Maison Blanche Bldg., New Orleans, for School of Medicine to be erected on property of Charity Hospital; 225x60 ft. 1-15

La., New Orleans—Dillard Memorial University, Edgar B. Stern, Chmn., Bd. of Trustees, ready for bids in Feb. for \$500,000, 4-story, rein. conc. and brick Flint-Goodridge Hospital, Louisiana Ave. and LaSalle St.; Moise H. Goldstein, Archt., American Bank Bldg. 12-25

Md., Baltimore—City will request legislation for authority to vote in May on \$66,500,000 loan including \$10,000,000 for school buildings and improvements. 1-22

Md., Cumberland—SS. Peter and Paul Catholic Parish, Father Albon, O. M. Cap. Rector, erect \$100,000 school, Fayette and Smallwood Sts.; 180x110 ft.; gymnasium to have basket court with seats in bowl shape to accommodate 1200 people; balcony to accommodate 1000 additional. 1-22

Md., Baltimore—Bd. of Public Improvement Comsn., H. J. Leimbach, Supvg. Engr., has low bid at \$127,926 from Thomas Mullan, 3945 Greenmount Ave., for School No. 122, Preston St. between Druid Hill and Pennsylvania Aves.; Flournoy & Flournoy, Archts., 334 St. Paul St.; Henry Adams, Inc., Mech. Engr., Calvert Bldg.; Henry Massert, Struc. Engr., 328 N. Charles St. 1-15

Miss., Pascagoula—Hurley Consolidated School Dist. votes Feb. 7 on \$20,000 bonds for school building, teachers' homes, superintendent's home, etc. 1-22

Mo., Kirkwood, St. Louis—Rott School Dist., Harry D. Ford, Pres., selected Robert F. Denny, Paul Brown Bldg., St. Louis, to prepare plans for \$25,000 for \$25,000 brick school. 1-22

Mo., St. Joseph—Bd. of Education, A. L. Loving, Sec., ready for bids about Feb. 1 for \$160,000, 2-story and basement, brick, stone and rein. conc. Lindbergh School, St. Joseph and Concord Aves.; Webb Siemens, Archt., Bartlett Bldg.; Wm. B. Ittner, Inc., Asso. Archt., Continental Life Bldg., St. Louis. 11-6

N. C., High Point—Following contractors estimating on \$290,000, 2- and 3-story and basement, rein. conc., struc. steel, brick and hollow tile junior high school, bids Feb. 4: R. K. Stewart & Son, S. Hamilton St.; Wilson & Keziah, Inc., Centennial St., both High Point; Frank L. Blum & Co., 860 W. 4½ St.; Northeastern Construction Co., Nissen Bldg., both Winston-Salem; Beaman Coleman Co., Raleigh; Geo. W. Kane, Jefferson Bldg.; Angle-Blackford Co., Am. Natl. Bank Bldg., both Greensboro; W. P. Rose Co., Wayne Natl. Bank Bldg., Goldsboro; S. S. Toler & Son, Rocky Mount; plans by Harry Barton, Jefferson Bldg., Greensboro. 1-8

Tenn., Crane—Crane School Dist. votes Feb. 2 on \$125,000 bonds. 1-22

Tenn., Fort Stockton—Fort Stockton Ind. School Dist., H. H. Butz, Pres., having plans prepared by David S. Castle Co., Alexander Bldg., Abilene, for \$100,000, 3-story, brick, tile and rein. conc. school. 1-22

Tenn., Lubbock—Texas Technological College, W. T. Gaston, Bus. Mgr., receives bids Feb. 18 on power house, covering general construction, wiring, heating and plumbing; plans at office Mr. Gaston, and Wyatt C. Hedrick, Inc., Archts., First Natl. Bk. Bldg., Fort Worth. 1-22

Tenn., Mercedes—Mercedes Ind. School Dist. Trustees, R. H. Kern, Pres., ready for bids about Feb. 20 for 1-story gymnasium and cafeteria building and 4-room addition to grade school; both brick and rein. conc.; R. Newell Waters, Archt., Weslaco; W. E. Simpson Co., Engrs., Milam Bldg., San Antonio. 12-11

Tenn., Prairie View—Prairie View State Normal and Industrial College, J. K. Walker, Dept. of Branch Colleges, College Station, having plans prepared by Prof. F. E. Gleeske, of A. & M. College, College Station, for 3-story, 46x119 ft., brick, tile and rein. conc. classroom building. 1-22

Tenn., San Angelo—Glenmore School Dist. Trustees, W. M. Holland, plan \$12,600 school; Anton F. Korn, Thomas Bldg., Dallas, and

Crews Alexander, San Angelo Natl. Bank Bldg., Archts.; soon vote on bonds.

Tex., Slidell—Slidell Ind. School Dist. voted \$15,000 building bonds.

Tex., Victoria—St. Mary's Academy having plans prepared by W. C. Stephenson, Beeville, for \$20,000 school and academy building; one story, brick, tile and rein. conc., 6 classrooms.

Va., Salem—Roanoke County School Bd., Roland E. Cook, Supt., erect high school to replace structure noted burned at loss \$100,000.

Va., Williamsburg—College of William and Mary, Dr. J. A. Chandler, Pres., received bids Jan. 30 at office Charles M. Robinson, Architects, Times-Dispatch Bldg., Richmond, for \$50,000, 3-story, 60x125 ft., brick, stone trim dormitory to be known as Taliaferro Hall; slate roof.

W. Va., Huntington—St. Joseph's Catholic Parish, Rt. Rev. Mgr. James Francis Newcomb, erect 3-story, 60x135 ft., brick and terra cotta high school, Sixth Ave. and 13th St.; accommodate 200 students; Fox, Guthrie & Foose, Cleveland, submitted preliminary sketches, and it is expected that they will be retained for completion of work.

Stores

Ark., Walnut Ridge—Frank Pace, Reigler Bldg., Walnut Ridge, plans \$25,000 store to replace structure recently destroyed by fire; brick; S. N. Pitzel & Co., Lessee.

D. C., Washington—James A. Nesser erect store, 1206-08 K St., N. W.; A. B. Mullett & Co., Archts., Union Trust Bldg.

D. C., Washington—Thomas Somerville, 312 13th St., N. W., erect addition to store, 3122 Fourteenth St., N. W.; Hanover Shoe Co., Lessee, Hanover, Pa.; K. W. Hartig, Archt., 1613 Webster St., N. W., Washington; bids in.

D. C., Washington—Peoples Life Insurance Co., 14th and H Sts., N. W., remodel store to be leased to Louis K. Liggett Co.; W. Thomas Williams, Archt., 41 E. 42nd St., New York; W. P. Lipscomb Co., low bidder, 1406 G St., N. W.

D. C., Washington—American Security & Trust Co. has low bid from T. F. Collier, 1109 20th St., for improvements to store, 1322 G St., to be leased to Paul's Jewelry Store; A. B. Mullett & Co., Archts., Union Trust Bldg.

Ga., Rome—Esserman & Co. receives bids Feb. 10 for alterations to store recently damaged by fire at loss \$12,000; 2 stories and basement, 45x1132 ft., brick, limestone trim, alternate on cast stone; Lockwood & Poundstone, Archts., Marietta Bldg., Atlanta; following estimating: John F. DePre & Son; Chas. Blackstock; O. W. McCurry; J. B. Camp & Son; R. L. McKenzie, all Rome.

Ga., Talmo—T. W. Murphy & Sons' store; loss \$50,000.

La., Baton Rouge—Miss Bertha Pearson has low bid at \$10,376 from Robert Thibodaux, Goodwood Place, for 1-story and basement, 60x55 ft., brick building, Dufrosq and N. Boulevard; built-up comp. roof; Robert H. Goodman, Archt., Bank of Baton Rouge.

Mo., St. Louis—Pontiac Hotel, 1901 Market St., remodel store, 18th and Pine Sts., and erect 1-story and basement, brick, 55x100 addition; A. F. and Arthur Stauder, Archts., 3608 Gravois Ave.; bids in.

Tex., Austin—J. W. & L. Scarbrough, 1801 West Ave., receives bids Feb. 3 for alterations and addition to store of Scarbrough & Sons; work consists of demolishing store portion 160 x 102 ft. down to foundation walls and rebuilding 3 stories with future 4th story; present 8-story office building to have new front and general remodeling on first floor and repairs to other floors; total dimensions 160x154 ft., brick and tile, marble wainscots, Barrett roof; window blinds, plumbing, wiring, elevators and spiral conveyor at same time under separate contracts; Wyatt C. Hedrick, Inc., First Natl. Bank Bldg., Fort Worth and Edwin C. Kreisler, Scarbrough Bldg., Asso. Archts.; following contractors estimating: P. O'B. Montgomery; H. W. Underhill Construction Co., both Construction Industries Bldg.; J. O. Everett Construction Co., 1713½ Live Oak St.; Bellows-Macley Construction Co., Construction Industries Bldg., all Dallas; James T. Taylor, Aviation Bldg.; Harry B. Friedman, Sinclair Bldg.; Thos. S. Byrne, Inc., Fort Worth National Bank Bldg., all Fort Worth; Ashton Glassell Co., Inc., 260 Cadillac St., Shreveport, La.; J. H. Wattinger, Scarborough Bldg.; Henry Wattinger, 401 Paul St.; J. F. Johnson, 500 E. Third St., all Austin; Robt. E. McKee, 1900 Texas St., El Paso; Don Hall Construction Co., Union Natl. Bank Bldg., Houston; Westlake Con-

struction Co., Rwy. Exch. Bldg., St. Louis, Mo.

Tex., Austin—Fox-Schmidt Co., 415 W. Sixth St., erect \$11,000, one-story, 46x125 ft. brick store; Page Brothers, Archts., Littlefield Bldg.; bids in.

Warehouses

D. C., Washington—Thomas Somerville, 312 13th St., N. W., erect 3-story, 60x250 ft., brick, conc. and steel warehouse and office building, Blair Road; slag roof, steam heat, electric elevator and lift; private plans; following estimating, date of opening bids not set: Samuel J. Prescott Co., 814 13th St.; Skinner & Garrett, 1719 Eye St.; Boyle-

Robertson, Inc., Evans Bldg.; R. P. Whitty Co., Denrike Bldg.

Tenn., La Follette—W. H. Parrott interested in erection of \$15,000 tobacco warehouse.

Tenn., Johnson City—Miller Brothers Co., E. H. Miller, Pres., Noan and Cherry Sts., erect 160x339 ft., fireproof tobacco warehouse; 75,000 sq. ft. floor space; steel frame with corrugated iron side walls and roof; cone floor; construction to start in 60 to 90 days; architect not selected, nor contracts awarded.

Tenn., Memphis—Penn Oil Co., F. P. Kendall, Pres., 1075 N. Second St., plans 2-story, brick and corrugated iron warehouse; comp. built-up roof.

BUILDING CONTRACTS AWARDED

Association and Fraternal

Ala., Birmingham—Kamran Development Co., W. W. Alvey, Pres., 1905 N. Third Ave., let contract to Mackle Building Co., Inc., 615 S. 27th St., to remodel bldg., 2012 Magnolia Ave., for lodge bldg.; stage, assembly room; \$30,000; Chas. McCauley, Archt. 3-20

N. C., Mount Airy—Granite Lodge No. 322, A. F. & A. M., let contract to J. Matt Hines, Mount Airy, for \$30,000 temple; non-fireproof, 2 stories, 38 x 92 ft., wood floors, brick foundation, comp. Barrett specification roof; Harry Barton, Archt., Jefferson Standard Bldg., Greensboro. 11-27

Okla., Oklahoma City—Leo Sanders, Trades Natl. Bank Bldg., has excavation contract for \$500,000 Y. M. C. A. bldg.; misc. and orna. iron and rein. and struct. steel, Capitol Steel & Iron Co., 1726 S. Agnew St.; conc., Makins Sand & Gravel Co., Commerce Exch. Bldg.; Hawk & Parr, Archts., First Natl. Bank Bldg.; J. H. Frederickson & Co., Contrs., Baltimore Bldg. 12-25

Tex., Nacogdoches—Ancient Free and Accepted Masons started work on 2-story brick and tile temple; \$20,000, 32x45 ft. and 28x60 ft., conc. and oak floors, tin roof; Shirley Simons, Archt.; Wm. A. Foster, Contr., both Lufkin; all material purchased. 1-15

Bank and Office

Ga., Atlanta—Following sub-contracts let to date on 14-story and basement addition to Citizens & Southern National Bank Bldg.: Plumbing, Stephenson Co., 143 Spring St., N. W.; heating, Wm. A. Manning & Son, 145 Linden Ave., N. E.; ventilating, C. A. McGinnis Co., 905 Bermin Ave., N. E.; wiring, Walker Electrical Co., Bona Allen Bldg.; struct. steel, Ingalls Iron Works Co., Healey Bldg.; elevators, Otis Elevator Co., 139 Harris St., N. E., all Atlanta; elevators enclosures, Paltridge Metal Equipment Co., 341 N. Crawford Ave., Chicago, Ill.; interior marble, Alabama Marble Co., 1 Watts Bldg., Birmingham, Ala.; vault work, Mosler Safe Co., Arcade Bldg., Atlanta; metal windows, Campbell Metal Window Corp., Bush and Hamburg Sts., Baltimore, Md.; industrial windows, Truscon Steel Co., Rhodes Haverly Bldg.; exterior millwork, Phoenix Planing Mill Co., 719 Highland Ave., N. E.; Hentz, Adler & Shutze, Archts., Candler Bldg.; Southern Ferro Concrete Co., Contr., 70 Ellis St., N. E., all Atlanta. 9-4

Md., Annapolis—Milton Roberts, Charles and Chase Sts., Baltimore, erect \$10,500 office bldg.; brick, 2 stories, 22x45 ft.; Howard F. Baldwin, 339 St. Paul St., Baltimore; Carlson & Carlson, Contrs., Annapolis.

Okla., Duncan—Southwestern Properties Corp., care G. G. Antene, 105 W. 24th St., let contract to J. J. Hart, 1428 W. 27th St., for 5-story theater and office bldg.; \$110,000; first floor 75x140 ft., remainder 60x75 ft., brick; Layton, Hicks & Forsyth, Archts., Braniff Bldg., all Oklahoma City. 9-4

Okla., Oklahoma City—First National Bank & Trust Co., Frank P. Johnson, Pres., let contract for superstructure of \$3,000,000 bank and office bldg. to Manhattan Construction Co., Manhattan Bldg., Muskogee, and Tulsa; fireproof, 32 stories and basement, 140x200 ft., brick, stone, steel and rein. conc., 80,000 sq. ft. of space for banking section, 250,000 sq. ft. for offices; Weary & Alford, Archts., 1923 Calumet Ave., Chicago, Ill.; Edw. Smith, Resident Archt., Amer. Natl. Bk. Bldg., Oklahoma City. 1-15

Okla., Oklahoma City—American Bridge Co., 71 Broadway, New York, reported, has contract for 2300 tons fabricated struct. steel for \$3,000,000 Ramsey Bldg. for Starratt Investing Corp.; Walter W. Ahlschlager, Inc., Archt., 10 N. Clark St., Chicago, Ill.; and 565 Fifth Ave., New York; Drury Moseley

Co., Asso. Archts., Perrine Bldg., Oklahoma City; Starratt Bros., Inc., Contrs., 8 S. Dearborn St., Chicago, and 101 Park Ave., New York. 1-15

Churches

Tex., Temple—Seventh St. Methodist Church complete bldg.; brick and tile, cast stone trim, 52x80 ft., Celotex ceilings, sheet rock partitions; Wm. C. Meador, Archt., Dan Waggoner Bldg., Fort Worth; A. W. Fowlkes, Contr., Temple.

City and County

Mo., Kansas City—Following contracts and sub-contracts let on \$3,000,000 Nelson Art Gallery and Atkins Museum of Fine Arts for City, on which steel work is about completed; Terra cotta, Western Terra Cotta Co., Kansas City, Kan.; waterproofing, O. H. Mann & Co., Inc., Fairfax Bldg.; face brick, Hydraulic Press Brick Co., Rialto Bldg.; common brick, United Brick & Tile Co., Lee Bldg.; heating, U. S. Engineering Co., 914 Campbell St.; plumbing, W. P. Joyce Plumbing & Heating Co., 1113 E. 13th St.; elect. wiring, W. L. Hutchinson Electric Co., 306 E. 14th St.; painting, Clarence Evans, 24th and Holmes Sts.; temperature control, Powers Regulator Co., 409 E. 13th St.; light fixtures, Benson Brass & Chandler Co., 1417 Agnes St.; rein. steel work, Carter-Waters Corp., 2440 Pennway St.; plastering, Walter Plaster Co., Railway Exch. Bldg.; roofing, A. J. Shirk Roofing Co., 3017 Roanoke Rd.; Wight & Wight, Archts., 400 First Natl. Bk. Bldg.; Long Construction Co., Contr., 600 Rialto Bldg., all Kansas City, Mo. 10-23

Tenn., Sneedville—Hancock County Bd. of Commrs. let contract to Emory Construction Co., Empire Bldg., Knoxville, to remodel court house damaged by fire; \$30,000; cast stone front, 2 stories; brick, conc. and cast stone trim addition, 2 stories and basement, 70 x 56 ft.; Allen N. Dryden, Archt., Kingsport. 1-15

Dwellings

D. C., Washington—E. B. Markham, 5118 Wisconsin Ave., N. W., let contract to C. W. Gosnell, 1727 K St., N. W., for stone residence, Ellicott St. and 30th Place; 2½ stories, tile baths, slate roof, copper gutter and downspouts; Wm. F. Wagner, Archt., Loughborough. 1-8

D. C., Washington—Columbia Construction Co., 7100 Ninth St., N. W., erect 2 cinder block dwellings, 7101-07 Ninth St., N. W., after plans by F. W. Wilcox; 2½ stories; \$16,000. 1-15

D. C., Washington—Southern Construction Co. erect 7 dwellings, 301-17 Madison St., N. W., after plans by Geo. T. Santmyers, Archt., 1416 I St., N. W.; 2 stories; \$46,000. 1-8

D. C., Washington—D. C. Gruver, 927 15th St., N. W., erect 14 brick dwellings, 2209-25 and 2301-09 39th St., after plans by Geo. T. Santmyers, Archt., 1410 I St., N. W.; 2 stories; total \$70,000; owner builds. 1-8

D. C., Washington—W. C. & A. N. Miller, 1119 17th St., N. W., erect \$10,500 dwelling, 4326 Forest Lane, N. W., after plans by G. E. MacNeil, Archt., 1119 17th St., N. W.; brick, stone and frame; owner builds. 1-1

D. C., Washington—Robt. Benner, 1108 Glen Ross Rd., erect \$15,000 brick, stone and stucco residence, North Woodside, Md.; 2 stories; owner builds.

D. C., Washington—R. H. Sanford, Chandler Bldg., erect 10 dwellings, 5500 block Kansas Ave., N. W.; 2½ stories, brick, oak floors, tile baths, slate and tin roof, hot water heat, built-in kitchen equipment; Geo. T. Santmyers, Archt., 1416 I St., N. W.

D. C., Washington—C. L. Fowler, 1534 Otis St., N. E. erect 8 frame and stucco dwelling, Otis St. near 15th St.; 2 stories, hardwood floors, tile bath, comp. roof, hot water heat; total \$40,000; owner builds.

D. C., Washington—Albert Hongie, 17 Sixth St., S. E., erect frame and stucco residence, Nichols Ave., S. E.; \$10,000, 2½ stories, asbestos shingle roof, hot water heat; Chas. G. Spicknall, Contr., 832 Rittenhouse St., N. W.

D. C., Washington—Jas. Rimmer, 2 Jackson Ave., University Park, erect 2 brick and hollow tile dwellings; 2½ stories, tile bath, oak floors, comp. roofs, hot water heat; \$16,000; owner builds.

D. C., Washington—Chas. G. Spicknall, Bldr., 832 Rittenhouse St., N. W., erect 4 brick and hollow tile dwellings, 600 block Fifth St., N. W.; 2½ stories, slate and tin roofs, conc. foundations, hot water heat, electric refrigerators; Geo. T. Santmyers, Archt., 1416 I St., N. W.

Fla., Coral Gables, Miami—Carl Green, 423 Avenue Navarre, plans to start work by Feb. 1 on dwelling, garage, etc., Pine Tree Drive; A. DeHaven Zink, Archt., Seybold Bldg., Miami.

Fla., Miami—Mrs. W. P. Forschner erect rein. conc., conc. block and stucco residence, S. W. First St. near 15th Ave.; 1 story, oak and tile floors, cast stone entrance, Johns-Manville asbestos shingle roof; J. P. Nielson, Contr., 55 N. E. 46th St.

Fla., Miami Beach—Richard Massey, 2374 N. Bay Rd., erect pavilion, colonnade, dancing terrace, etc., to residence; landscaping; Kiehnel & Elliott, Archt., Seybold Bldg., Miami; day labor.

Ga., Atlanta—A. Isakson, 409 McAfee St., N. W., erect brick veneer residence, 924 Westmont Rd., S. W.; 1-story, comp. roof, 6 rooms; day labor.

Ga., Baxley—Dr. T. J. Barnes erect \$10,000 residence, N. Main St.; brick, 1 story and basement, hardwood and tile floors, 2 baths, tile roof, steam heat; G. E. Plier, Contr.

Ga., Thomasville—Alvah K. Lawrie, 930 Park Ave., New York, let contract to Joe Beutell, Thomasville, for \$65,000 winter residence, Box Hall Plantation. 1-1

La., Orleans—Philip Schneller, Contr., 4141 Orleans St., erect dwelling, DeMontluzin and Lombard Sts.

La., New Orleans—Frank P. Du Frechon, Contr., 4227 Fontainebleau St., erect raised residence near Fontainebleau Drive; tile work, sheet metal, tile roof.

La., New Orleans—G. P. Bartels, 2606 N. Tonti St., let contract to Geo. J. Lupo, 3212 Toledano St., for frame residence; Jones, Roessle & Olschner, Archts., Maison Blanche Bldg. 1-1

La., New Orleans—B. A. Russ, 4 Paladin Place, erect 2 Colonial dwellings, Metairie and Gentilly sub-divisions; ready for sub-bids in about 10 days on sheet metal work, asbestos roofing, tile work, orna. iron work, etc.

La., New Orleans—A. Hansen, Contr., 827 French St., erect dwelling, 1006 French; sheet metal work, asbestos roof, orna. iron.

Md., Baltimore—Vincent L. O'Connor, Balto. Trust Bldg., erect 3 dwellings, 3008-14 Fleetwood St.; frame, 2 stories, 17x32 ft.; total \$10,000; owner builds.

Md., Baltimore—Jas. C. Byrne, 231 St. Place, erect 14 brick dwellings and garages, 7301-27 Harford Rd.; 2 stories, 16x45 ft., slag rooms; total \$35,000; Geo. Wessel, Archt., 601 W. 40th St.; owner builds.

Md., Baltimore—John Welsh, 11 E. Fayette St., erect 4 brick dwellings and garages, 4616-27 Arabia Ave.; 2 stories; total \$16,000; Geo. Wessel, Archt., 601 W. 40th St.; owner builds.

Md., Baltimore—E. Gardner Ziegler, Bldr., 216 St. Paul St., excavating for 2½-story frame dwelling, Bethoven Ave. and Norwood St.

Md., Baltimore—Harry F. Page, Bldr., 327 E. 30th St., erect dwelling, Broxton Rd. near Tilbury Way, Homeland.

Md., Baltimore—Albert S. Moore, 620 N. Kenwood Ave., erect brick residence and garage, 3004 Pinewood Ave.; 1½ stories, 28x43 ft. and 18x18 ft.; Talbott & Boschert, Contrs., American Bldg.

Md., Baltimore—Rev. G. W. Haddaway, 516 N. Charles St., erect shingle residence, Homeland; 2½ stories, 38x30 ft.; Kenneth C. Miller, Archt.; Peyton B. Strobel Construction Co., Contr., both 206 E. Lexington St.

Md., Baltimore—Realty Engineering Corp., Equitable Bldg., erect 2 conc. block dwellings, Rosalie Ave.; 2 stories, slag roofs, gas heat; J. C. Spedden, Archt., 2715 Harlem Ave.; work by sub-contract.

Md., Baltimore—Clifton K. Wells, Bldr., 3538 Old York Rd., erect 12 2-story brick

dwellings, Paddington Rd.; Palmer & Lambdin, Archts., 513 N. Charles St.; owner builds.

Md., Baltimore—Woodward Building Co., 5910 Harford Ave., erect 2 or 3 frame dwellings, Hamilton section; about 22x38 ft.; owner builds.

Md., Baltimore—Gustave von Behren, 5911 Burgess Ave., erect frame residence, 6015 Burgess Ave.; 1½ stories, 26x32 ft., hot water heat; John H. Otto, Contr., 50233 Midwood Ave.

Md., Loch Raven—Hampton Co., John Ridgely, Jr., Archt., Pres., 100 E. Pleasant St., let contract to Clifton K. Wells, Jr., 3538 Old York Road, for 2 dwellings, Hampton; one of stone, 2½ stories, 3-car garage; Wrenn, Lewis, Westenhaber & Jencks, Archts., Title Bldg.; other white painted brick, 10 rooms, 4 baths; Edw. Hughes Glidden, Jr., Archt., 18 E. Lexington St., all Baltimore; plans being drawn for 2 additional dwellings.

Md., Middle River—Robt. Holzknecht receives bids Feb. 3 for residence; cinder block and stucco, 2½ stories, hardwood floors, slate roof, hot water heat, conc. foundation; Bernard Evander, Archt., 20 E. Lexington St.; following contractors estimating: L. Schonenlein & Son, 3006 Parkside Drive, John H. Sier, 3705 Chatham Rd.; Ritter & Lambert, 5511 Hilltop Ave.; Vesely & Co., 742 Kenwood Ave.; E. Eyring & Son, 808 S. Conkling St.; C. S. Kern, 612 McCabe Ave.; A. Di Domenico & Son, 2901 Gibbons Ave.; Ralph Simmers, 4547 Harford Rd.; Henry A. Knott, 2107 N. Charles St.; Lacchi Construction Co., Munsey Bldg.; L. Le Roy Spelshouse, 1621 Frederick Ave., all Baltimore; Disharoon & Co., Sparrows Point. 12-25

Mo., St. Louis—Building Industries Corp., Arcade Bldg., erect \$12,000 dwelling, 7471 Cromwell St., St. Louis County; brick, 2 stories, 31x50 ft., conc. block foundation, tile roof, oil burner; Edw. E. Christopher, Archt., 1217 Louderman Bldg.; owner builds.

Mo., St. Louis—J. L. Sullivan, 2710 S. Grand Ave., erect \$10,000 residence, 7745 Davis Drive, St. Louis County; brick, 2 stories, 46x48 ft., conc. foundation, slate roof, oil burner; Marcel Boulicault, Archt., 1101 Ambassador Bldg.; J. A. Kuhn, Contr., 4040 Flora Place.

Mo., St. Louis—Joe Berkowitz, 7433 7433 Cromwell Drive, erect \$13,000 brick residence, 649 W. Polo Drive; 37x43.6 ft., stone foundation, hot water heat; F. G. Avis, Archt., 1021 Big Bend Rd.; Arthur R. Dadr, Contr., 3806 Kingshighway.

Okla., Shawnee—Paul Loy let contract to Cook & Maxey for \$11,000 residence; brick veneer, 1 story and part basement, 45x64 ft.; L. P. Nygard, Archt. 12-11

Tex., Seguin—Geo. Mendlovitz let contract to Edwin Barth, Seguin, for \$11,000 residence; brick veneer, rein. conc. foundation, 1 story, 10 rooms, 2 baths, hardwood and tile floors; Jeremiah Schmidt, Archt., New Braunfels; J. W. Beretta, Engineers, Inc., Natl. Bk. of Commerce Bldg., San Antonio. 12-18

Tex., San Antonio—Jack Flaherty, 618 N. St. Marys St., let contract to John Westerhoff for rock veneer residence; 1 story, 7 rooms; Emmett T. Jackson, Archt., Builders Exch. Bldg.; W. E. Simpson & Co., Engrs., Milam Bldg. 1-15

Government and State

Ala., Maxwell Field, Montgomery—Constructing Quartermaster, Capt. M. A. McFadden, let contract at \$81,890 to Smith-Pew Construction Co., Inc., 435 Irwin St., N. E., Atlanta, Ga., for the paint, oil and dope warehouse, maintenance bldg., warehouse, and garage, Maxwell Field. 1-22

D. C., Washington—Michaels Art Bronze Co., Covington, Ky., has contract at \$32,963 for exterior lighting fixtures for Federal buildings.

La., Baton Rouge—Ingalls Iron Works Co., 720 Fourth Ave., S., Birmingham, Ala., has sub-contract through Lukens Steel Co., Coatesville, Pa., to fabricate 4000 tons struct. steel for \$5,000,000 Louisiana State Capitol; Weiss, Dreyfous & Seifert, Archts., Maison Blanche Bldg., New Orleans, La.; George A. Fuller Co., Contr., Fuller Bldg., New York, and Munsey Bldg., Washington, D. C. 1-15

La., Baton Rouge—Rockwood Quarries, Russellville, Ala., have \$275,000 contract for 120,000 cu. ft. Alabama limestone for \$5,000,000 Louisiana State Capitol; Weiss, Dreyfous & Seifert, Archts., Maison Blanche Bldg., New Orleans; Geo. A. Fuller Co., Contr., Fuller Bldg., New York, and Munsey Bldg., Washington, D. C. 1-5

Okla., Oklahoma City—J. B. Klein Iron &

Foundry Co., 1004 W. Second St., reported, has contract for 1000 tons fabricated struct. steel for \$1,000,000 extension and remodeling of post office and court house; DeVault & Deltrick, Inc., Contrs., Massillon Rd., Canton, O. 1-15

Tenn., Chattanooga—Fidelity Trust Co. erect 2-story frame bldg., McCallie Ave. and Willow St., to be leased to Government for post office; furniture, fixtures, boxes, fireproof safe; 1 room, 24x28 ft.

Va., Roanoke—Stone-Tile & Supply Co., Inc., Cleveland Ave. and 17th St., Roanoke, has contract for about 60,000 units of cinder block and cinder tile for \$525,000 post office, custom house, etc.; Worsham Bros., Contrs., Empire Bldg., Knoxville, Tenn. 9-4

Hospitals, Sanitariums, Etc.

Ark., Benton—Arkansas Construction Comsn., Tom Davis, Sec., DeWitt, let contract at \$327,500 to Wm. Peterson, Donaghey Bldg., Little Rock, for first unit, 6 bldgs., for \$3,250,000 State Hospital for Nervous Diseases; 4 patients' dormitories, 1 assembly bldg. and 1 cafeteria and kitchen bldg.; Colonial type, fireproof, red brick and conc., stone trim; Mann, Wanger & King, Archts., New Donaghey Bldg., Little Rock; Sullivan W. Jones, Conslt. Archt., 25 W. 45th St., New York; Lund Engineering Co., Engrs., Home Ins. Bldg., Little Rock. 1-1

D. C., Washington—Dietrich Bros., Davis and Pleasant Sts., Baltimore, Md., has contract for 170 tons struct. steel for \$325,000 nurses' home for Gallinger Hospital; plans by A. L. Harris, Municipal Archt., District Bldg., Washington; W. P. Rose Co., Inc., Contr., Wayne Natl. Bk. Bldg., Goldsboro, N. C. 1-1

Va., Marion—Stone-Tile & Supply Company, Inc., Cleveland Ave. and 17th St., S. W., Roanoke, has contract for about 32,000 units of cinder block and cinder tile for \$100,000 addition to Southwestern State Hospital under constr.; Eubank & Caldwell, Inc., Archts., Boxley Bldg., Roanoke; constr. by owner. 1-8

Hotels and Apartments

Ala., Montgomery—George Costarides, 34 Capitol Parkway, let contract to Jeffers Realty Co., 9 Eugene St., for \$15,000, 2-story, brick and tile Paramount Apartments; Okel & Cooper, Archts., Bell Bldg.

Ala., Montgomery—W. W. Vaughn, 207 Dexter Ave., let contract at \$120,000 to Greeson Manufacturing Co., 103 Shady St., for 2-story and basement, brick apartment, 1008 S. Lawrence St.; hardwood floors, comp. roof.

Ala., Troy—Fred Henderson and associates started work on improvements to 4-story, 50-room Troy Hotel; Dolph Owens, Contr.; Okel & Cooper, Archts., Bell Bldg., Montgomery.

Ark., Hot Springs National Park—Hercules Contracting Co., Wainwright Bldg., St. Louis, Mo., reported, has contract for \$855,000, 108x60 ft., Algonite stone, brick and rein. conc., 200-room hotel and garage, owner's name withheld; 8 stories with 7-story tower and basement, steam heat, terrazzo floors, 150-car garage; Geo. R. Bartling, Inc., Archt., Paul Brown Bldg., St. Louis, Mo.; ready for sub-bids. 12-4

D. C., Washington—Fred Schneider Co., 1001 Fifteenth St., N. W., erect \$400,000, 8-story brick, rein. conc., hollow tile and limestone apartment, Second St. N. E.; slag roof, steam heat, 2 passenger elevators, linoleum floors, incinerator, electric refrigerators tile baths, radio aerials and outlets; Geo. T. Santmyers, Archt., 927 Fifteenth St., N. W.; owner builds.

D. C., Washington—David L. Stern, Archt., 1412 Eye St., ready for sub-bids for 3-story, brick, rein. conc., hollow tile and limestone apartment house; slag roof, steam heat, tile baths, linoleum and oak floors.

Ga., Atlanta—Mrs. Jessie Winn and Mrs. Mary Wood, Habersham Road, erect \$50,000, 2-story and basement, 24-apartment, 1490 Peachtree St., N. W.; comp. roof; owner builds by day labor.

Ga., Macon—Following mechanical contracts awarded for 9-story and basement, rein. conc., brick and tile, stone trim, 140-room addition to Hotel Dempsey, Herbert M. Block, Mgr.; Plumbing, Standard Engineering Co., 2129 I St., N. W., Washington, D. C.; heating, Chas. W. Christian Co., 937 Providence Road, Charlotte, N. C.; electrical, Richardson-Wayland & Electric Corp., 106 Church Ave., S. W., Roanoke, Va.; W. L. Stoddart, Archt., 50 E. 41st St., New York; Angle-Blackford Co., Gen. Contr., Am. Natl. Bank Bldg., Greensboro, N. C. 1-22

Mo., St. Louis—Ambassador Investment Co., care Jacob Rubin & Son, Contrs., Wainwright

Bldg., erect 3-story and basement, 160x81 ft., 48-apartment, 4915 W. Pine Blvd.; comp. roof, steam heat; 24-car garage; ready for sub-contract bids; Ben Shapiro, Archt., Synd. Trust Bldg.

Mo., St. Louis—J. Goldman, 1407 Black-665,000, 3-story and basement, 112x52 ft., stone Ave., ready for sub-contract bids for brick, 15-apartment, 5642 Enright Ave.; comp. roof, hardwood floors, prob. steam heat; Ben Shapiro, Archt., Synd. Trust Bldg.; owner builds.

Mo., St. Louis—John Sobery, 2730 Gravois Ave., erect addition and remodel 2-story brick store and apartment; \$12,000, gravel roof, vapor heat; Victor Architectural and Building Co., Archt.-Bldr., 4826 Delmar Ave.

Mo., St. Louis—Paramount Construction Co., Intl. Life Bldg., ready for sub-contract bids for two 3-story and basement, 55x170 ft., brick and rein. conc., fireproof, 36-apartments, 4600 block N. side Lindell Blvd.; comp. roof, steam heat, linoleum and tile-text floors; 33 car-garages in basements; owner builds; Oliver J. Popp, Archt., Arcade Bldg.

Mo., St. Louis—Argyle Realty Co., care Nathan Alper, 6037 Washington Blvd., erect 3-story and basement, brick and rein. conc., 18-apartment, 5843 Clemens Ave.; steam heat, hardwood floors; owner builds; Ben Shapiro, Archt., Synd. Trust Bldg.

Okla., Oklahoma City—H. C. Eggleston, 2801 S. Harvey St., started work on \$15,000 2-story, brick veneer apartment, 2614 S. Harvey St.

Tex., Austin—Geo. T. Prewitt let contract at \$22,357 to Geo. Wieland Scarborough Bldg., for 2-story, brick veneer, 6-apartment, Woodland and Summit View in Enfield addition; 85x32 ft. with wing 28x42 ft., oak floors, 1-story, brick garage; H. F. Kuehne, Archt., Littlefield Bldg.

Tex., Dallas—E. C. Smith, Construction Industries Bldg., has charge of construction of \$175,000, 3-story hotel at Love Field in connection with airport for National Air Transport Co., 1101 Commerce St.

Miscellaneous

Ark., Little Rock—Women's City Club, Mrs. S. H. West, Pres., let contract to Geo. H. Burden Co., Moore and Turner Bldg., for improvements to building recently damaged by fire; \$10,000.

La., Shreveport—Columbia Restaurant, 521 Market St., let contract at \$14,017 to K. C. Wilson, Slattery Bldg., for improvements to 2-story building; Seymour Van Os, Archt., City Bank Bldg. 1-15

Mo., St. Louis—Following sub-contractors awarded on \$5,000,000 merchandise mart, Poplar St., Spruce St., Twelfth Blvd. and Thirteenth St., for Terminal R. R. Assn., Henry Miller, Pres., Union Station; St. Louis Mart, Inc., Lawrence H. Whiting, Lessee; Plumbing, Ryffel & Ratz Plumbing Co., 1340 N. Kings-highway Blvd.; heating and ventilating, Sodemann Heat & Power Co., 2301 Morgan St.; electric, Rick Electric Co., 1622 Chestnut St.; elevators, Westinghouse Electric Elevator Co., Ambassador Bldg.; sprinkler system, Globe Automatic Sprinkler Co., Pierce Bldg.; Preston J. Bradshaw, Archt., 718 Locust St.; W. J. Knight & Co., Struc. Engr., Wainwright Bldg. 12-25

Mo., Bagnell—Ozarks Country Club, J. Kinney, Commerce Bldg., Kansas City, erect 1-story, 50x100 ft. clubhouse; owner builds by day labor.

Schools

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Dept., Dist. Bldg., let contract at \$91,800 to A. L. Smith & Co., 2539 Pennsylvania Ave., for 4-room, gymnasium and assembly hall Deanwood School; 2 stories, brick and hollow tile, metal covered floors; A. L. Harris, Municipal Archt., Dist. Bldg. 1-15

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Dept., Dist. Bldg., let contract at \$138,995 to Fidelity Construction Co., 1218 Randolph St., N. E., for 4-room addition and alterations to Congress Heights School; brick, contents 495,000 cu. ft.; A. L. Harris, Municipal Archt., Dist. Bldg. 1-22

Ga., Albany—Georgia Normal & Industrial School, H. T. McIntosh, Chmn., erect 1-story and basement, brick veneer, 8-room home economics building; comp. roof, wood floors; owner builds by day labor; Daniel & Beutell, Archts., Georgia Savings Bank Bldg., Atlanta.

La., New Orleans—Superior Brass & Copper Foundry, 531 St. Joseph St., has contract for sheet metal work on Eleanor McMain Academic High School for Girls for

which J. A. Petty & Sons, Inc., Audubon, Bldg., have general contract at \$325,985; E. A. Christy, Municipal Archt.; other sub-contracts recently awarded. 12-4

Md., Charlotte Hall—Charlotte Hall School, Col. F. B. Crowson, Prin., let contract to Morrison Bros., Bethesda, for 2-story, 60x74 ft., brick, steel and conc. building and swimming pool; Howard W. Cutler, Archt., 1800 E St., Washington, D. C. 1-22

Md., Hamilton, Baltimore—Bethlehem Fabricators, Inc., Bethlehem, Pa., have contract for 400 tons struc. steel for Northeast Junior High School for which Wm. P. Langhorne & Co., 1900 Parrish St., Philadelphia, Pa., and S16 American Bldg., Baltimore, have general contract at \$552,000; Wm. W. Emmart, Archt., Union Trust Bldg., Baltimore. 1-22

Md., Rising Sun—Cecil County School Bd., H. T. Ruhl, Elkton, let contract to DeCou & Chidlaw, 857 N. Eutaw St., Baltimore, for 2-story, 70x110 ft., brick high school; Clyde N. & Nelson Friz, Archts., Lexington Bldg., Baltimore. 1-8

Miss., Columbia—Bunker Hill Consolidated School Dist. Trustees, care Marion County Bd. of Education, J. C. Broom, Supt., let contract at \$9500, plus cost of lumber, to S. T. Wilkes for frame school building.

Okla., Stillwater—Oklahoma Agricultural and Mechanical College, Dr. H. G. Bennett, Pres., let contract to Lyons & Co., Oklahoma City, for World War memorial stadium and fieldhouse; stadium to seat 25,000, fieldhouse, \$400; James W. Swank, Chicago, will direct work; plans by Philip A. Wilbur, Archt. Dept. of College. 12-18

Tex., Beeville—St. Joseph's Church erect 1-story, 6-classroom brick and hollow tile school and 2-story, frame convent; \$20,000; construction work to be done locally; started work on convent; school plans not completed; W. C. Stephenson, Archt. 1-15

Tex., Ozona—Ozona Ind. School Dist. Trustees let contract at \$137,600 to Anderson Bros., 500 N. Cotton Ave., El Paso, for 3-story, natural limestone, brick, tile, conc. and struc. high school; 20 classrooms, gymnasium and laboratories, auditorium to seat 750; Peters, Strange & Bradshaw, Archts., Lubbock. 1-15

Stores

D. C., Washington—W. T. Becker, 1483 Newton St., N. W., erect \$11,000, 1-story, brick, steel and limestone store, 9th St., N. W.; slag roof, steam heat; F. L. Fanning, Contr., 1401 K St.; W. S. Flagler, Archt., 1930 Kearney St., N. E.; John P. Scott, Lessee, 1248 9th St., N. W.

Mo., St. Louis—James Petway, 4049 Fair St., erect \$10,000, 2-story, 27x50 ft., brick store and dwelling, 1663 McLaren St.; shingle roof, hot air heat; Chris Speneman, Bldr., 4142 Farlin St.; J. E. Tarling, Archt., Grand & St. Louis Bldg.

Mo., Springfield—Milligan Investment Co., Julian Simmons, Holland Bldg., let contract to John Olesen, 863 Normal St., for \$100,000, 2-story and basement, 40x117 ft., brick, stone and rein. conc. store; W. T. Grant Co., Lessee, 455 Seventh Ave., New York. 1-8

Va., Newport News—Following sub-contracts awarded on \$250,000, 3-story and basement, fireproof building, 32nd St. and Washington Ave., for Washington Ave. Realty Co., to be leased to Nachman's Department Store, 30th St. and Washington Ave.: Millwork, Miller Manufacturing Co., Inc., 600 Stockton St.; glass, Blinswanger & Co., 525 E. Byrd St., both Richmond; rein. steel, Concrete Steel Co., Pennsylvania Bldg., Philadelphia, Pa.; misc. iron, struc. steel, Hall-Hodges Co., Inc., Citizens Bank Bldg., Norfolk; painting, O. K. Nestor; roof and sheet metal, O. J. Brittingham, 225 28th St.; heating and plumbing, A. J. McClay, all Newport News; piles driven, pouring footings and walls, Virginia Engineering Co., Gen. Contr., First Natl. Bank Bldg., Newport News. 12-4

Theatres

Okla., Duncan—Southwestern Properties Corp., care G. G. Antene, 105 W. 24th St., Oklahoma City, let contract to J. J. Hart, 1428 W. 27th St., Oklahoma City, for 5-story theater, office and store building; Layton, Hicks & Forsythe, Archts., Braniff Bldg., Oklahoma City. See Contracts Awarded—Bank and Office. 9-4

INDUSTRIAL NEWS OF INTEREST

Items of news about industrial, railroad or financial interests, building operations, construction work, municipal improvements, or the sale of machinery or the letting of contracts in the South or Southwest, are invited from our readers, whether they are advertisers, or subscribers, or not. We invite information of this character from readers in the North and West about their Southern business operations, as well as from Southern readers. News of value will be published just as readily when from non-advertisers as from advertisers.

United Gas Division Manager

D. S. McManus, for the past six years superintendent of gas, water and buses of the Gulf States Utilities Company and the Louisiana Electric Company at Lake Charles has been appointed division manager of the Southwest Louisiana Division of the United Gas Distribution Company, a unit of the United Gas System, Houston, Texas. Mr. McManus' territory will embrace 40 towns and cities in Southwest Louisiana, to be served by a gas pipe line now being constructed by the United Pipe Line Corporation, also a United Gas System unit, from Kirbyville, Tex., to Franklin, La., 158 miles, with six laterals covering a distance of 265.5 miles.

Modern Vault Installation

With a view to offering a safe deposit service to its depositors, the Emigrant Savings Bank of New York has awarded contract to the York Safe & Lock Company, York, Pa., for installation of modern vault equipment. The vault will be constructed of heavy reinforced concrete, lined with several layers of steel. Entrance will be through a door 20 inches thick and there will also be an emergency entrance of the same thickness. The vault will be finished with a polished steel ceiling and vault plates and equipped with a modern ventilating system. More than 2000 safe deposit boxes in a full range of sizes will be installed.

Official Chain Belt Changes

Clifford F. Messinger, formerly vice president and general manager of the Chain Belt Company, Milwaukee, Wis., was recently elected president of the company, succeeding his brother, C. R. Messinger, who resigned to become president of the Oliver Farm Equipment Company, Chicago, the latter being elected chairman of the board of the Chain Belt Company. G. K. Viall, works manager since 1929, was elected vice president.

General Electric Stockholders

Between December, 1929, and December, 1930, stockholders of the General Electric Company, Schenectady, N. Y., increased by 56,376, bringing the total number to 116,750, the largest in the history of the company. Most of these are holders of the company's common stock, of which there were 107,150 on record December 19, 1930.

Iron Bed-Making Machinery

As trustee of the Mebane Iron Bed Co., bankrupt, George E. Holt, Jr., Mebane, N. C., receives bids until February 3 for the purchase of machinery, equipment and supplies for the manufacture of iron beds and bed springs. Office fixtures also are offered. Details of the sale may be obtained by wiring Mr. Holt.

WANT SECTION

THE CLASSIFICATIONS IN THIS SECTION ARE:

Machinery and Supplies	Building Materials and Equipment	Bids Asked
Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.	This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.	Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.
Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.		

Machinery and Supplies

Glasgow Daily News Publishing Co., Wayne St., Glasgow, Ky.—Wants prices on following:

- (1) Display Type
- (2) Press
- (3) Job presses—and other newsplant equipment.
- (4) Radio Broadcasting Station Equipment.

Southwestern Hotel Co., Goldman Hotel, Fort Smith, Ark.—Wants prices and data on following for radio station:

- (1) Amplifying Equipment
- (2) Microphones (Condenser Type)
- (3) Rectifying Units
- (4) Transformers—3 phase, power
- (4) Transmitting Parts.

W. M. Smith & Co. (Mchy. Dealers), Box 1709, Birmingham, Ala.—Wants prices and data on following:

- (1) Air Compressor—200 to 300 cu. ft. per min., belt or motor driven
- (2) Engine—40 to 50 h. p., Diesel oil.

R. T. Polk, Richburg, S. C.—Wants prices and data on following:

- (1) Canning Outfits and Supplies
- (2) Woodworking Machinery.

Engine (Diesel).—Thomson Light & Water Co., R. A. Kunes, Thomson, Ga.—Wants prices and data on rebuilt Diesel engine.

Lathe.—W. M. Smith & Co. (Mchy. Dealers), Box 1709, Birmingham, Ala.—Wants prices and data on lathe, capacity up to 66 in.

Planer and Matcher.—Henry Levis & Co., Commercial Trust Bldg., Philadelphia, Pa.—Wants prices and data on used planer and matcher, about 15x8.

Track Scale.—M. K. Frank, 220 E. 42nd St., New York—Wants prices and data on track scales, about 100 ton capacity, used, good condition.

Miscellaneous

Alamo Iron Works, San Antonio, Tex.—Wants prices and data on following, first-class condition:

- (1) Track (Industrial)—4 mi. 24 gauge
- (2) Batch Boxes—100, 48-cu. ft.
- (3) Batch Cars—50.

Floodlighting.—Harry B. Friedman, Engr., Sinclair Bldg., Fort Worth, Tex.—Wants prices on following for floodlighting baseball park:

- Floodlights
- Steel Towers.

Cartons (Paper).—R. B. Curry, 240 N. Palm Ave., Sarasota, Fla.—Wants prices and data on paper cartons, etc., for potato chips.

Fire Extinguishers.—J. H. Yates, Edinburg, Tex.—Wants prices and data from manufacturers of small fire extinguishers, with globular or pear-shaped container of about 1 qt. capacity.

Potato Chip Manufacturing Machinery.—R. B. Curry, 240 N. Palm Ave., Sarasota, Fla.—Wants prices and data from manufacturers of potato chip manufacturing machinery.

Pipe.—Southwestern Shore Co., Inc., 3535 Penn St., Kansas City, Mo.—Wants prices on pipe for supporting floors, in lots of 1000 pieces of each 2 in. standard, 6 ft. long, 1½ in., 6 ft. long.

Razor Blades.—J. H. Yates, Edinburg, Tex.—Wants prices and data on razor blades to fit Gem or Eveready and others to fit Gillette razors.

Tree Sprayer.—W. C. Dedge, P. O. Box 64, Baxley, Ga.—In market for sprayer to spray pecan and fruit trees; to throw solution 50 to 60 ft.

W. C. Tucker, 2231 N. W. Fourth Terrace, Miami, Fla., plans manufacturing milk crates on small scale and wants prices on corner irons and wire rods.

Building Material and Equipment

Richard W. Alger, Archt., 1513 Candler Bldg., Atlanta, Ga., wants prices on following for dwellings:

- Dumb Waiters
- Electric Refrigerators
- Flooring—hardwood, tile
- Incinerator
- Limestone
- Marble
- Metal Doors
- Roofing—slate
- Steel Sash
- Tile—hollow, interior
- Brass and Bronze Work.

The Wilson Co., Box 391, Charlottesville, Va., estimating on \$60,000 hospital, Aberdeen Proving Ground, Md., wants prices on following until Feb. 1:

- Brick
- Cast Stone
- Cement
- Cement and Gravel
- Electric Wiring and Fixtures
- Fire Doors
- Glazing
- Hardware
- Heating
- Hollow Tile
- Lathing and Plastering
- Linoleum
- Marble and Tile
- Metal Weatherstripping
- Ornamental and Miscellaneous Iron
- Painting
- Plumbing
- Roofing and Sheet Metal Work
- Sand
- Steel Bucks and Trim
- Structural Slate
- Structural Steel
- Water-and Dampproofing.

Will N. Noonan Co., Archts., Builders Exchange Bldg., San Antonio, Tex., want prices on following for \$12,000 school, Hot Wells, Tex.:

- Roofing—asbestos shingle.

Wm. D. Van Sicken, Archt., 502 State Natl. Bk. Bldg., Brownsville, Tex., wants prices on following for \$12,000 dwelling, near Port Isabel, Tex.:

- Electric Refrigerators
- Flooring—hardwood, linoleum, tile
- Roofing—tile.

Miller Brothers Co., Inc., E. H. Miller, Pres., Johnson City, Tenn., wants prices on knocked down building for tobacco warehouse; steel frame with corrugated iron side walls and roof and conc. floor; 160x339 ft.; construction to start within 60 to 90 days.

Bids Asked

Binders.—Quartermaster Depot, Washington, D. C.—Bids Feb. 10 for 10,700 loose leaf binders.

Boring, Drilling and Milling Machine.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Feb. 10 for motor driven boring, drilling and milling machine.

Bridges.—State of Virginia—Bids for 3 bridges. See Construction News—Roads, Streets and Paving.

Bridges.—State of Georgia—Bids for 18 bridges. See Construction News—Roads, Streets and Paving.

Bridges.—Lexington, Miss. See Construction News—Bridges, Culverts and Viaducts.

Bridge.—Houston, Tex. See Construction News—Bridges, Culverts and Viaducts.

Bridge.—Magnolia, Miss. See Construction News—Bridges, Culverts and Viaducts.

Cattle Dip.—R. I. Tennant, State Bd. of Control, Austin, Tex.—Bids Feb. 10 for approx. 120,000 gal. cattle dip for Livestock Sanitary Comsn.

Chairs (Auditorium).—Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids Feb. 4 for auditorium chairs for Baltimore Polytechnic Institute for Dept. of Education.

Cranes.—Chief of Engrs., Munitions Bldg., Washington, D. C.—Bids Feb. 10 for truck crane with 24-ft. boom and 8-ft. extension.

Dredging.—U. S. Engr. Office, Wilmington, N. C.—Bids Feb. 10 for dredging approx. 10-383.313 cu. yd., Cape Fear River. See Construction News—Miscellaneous Construction.

Electric Supplies.—Pur. and Contracting Officer, Langley Field, Va.—Bids Feb. 2 for 45 socket bodies, 100 bushings, socket caps, locknuts, plugs, switches, tape and wire.

Fuel Oil, Electrical Supplies.—Navigation Dist. Comms., J. Russell Wait, Sec., Houston, Tex.—Bids Feb. 9 for fuel oil for loco cranes, and electric supplies.

Hack-Saw Blades.—See Miscellaneous Machinery, etc.

Gasoline Torches.—See Miscellaneous Machinery, etc.

Incinerators.—Comms., D. C., Washington, D. C.—Bids Mar. 4 for either or both of 2 municipal refuse incinerators. See Construction News—Miscellaneous Construction.

Lathe.—See Miscellaneous Machinery, etc.

Lighting Fixtures.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Feb. 2 for lighting fixtures, delivery Quantico, Va.

Miscellaneous.—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids Feb. 12 for following, Sch. 2627:

Steel windows, safety treads, cable, wire cable terminals, electric fixtures, push buttons, sockets, marine boxes, electric tape, conduit, sewer pipe, pipe fittings, etc.

Miscellaneous Machinery, etc.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Feb. 3 for tungsten hack saw blades; bids Feb. 10 for gasoline torches and motor driven toolmakers precision lathe.

Partition.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Feb. 2 for partition, sectional (wire-mesh) and 14 sections, delivery Quantico, Va.

Pontoon (Steel), etc.—U. S. Engr. Office, P. O. Box 72, Louisville, Ky.—Bids Feb. 5 for 33 steel pontoon, 40 sections of steel pipe and 25 pressed steel flanges.

Pipe.—U. S. Engr., Navy Bldg., Washington, D. C.—Bids Feb. 3 for 15 lengths 20-in. ponton discharge pipe.

Road.—Lexington, Miss. See Roads, Streets and Paving.

Roads.—State of Maryland—Bids for 2 roads. See Construction News—Roads, Streets and Paving.

Roads.—State of Kentucky—Bids for 2 roads. See Construction News—Roads, Streets and Paving.

Roads.—State of Virginia—Bids for 3 roads. See Construction News—Roads, Streets and Paving.

Roads.—State of Georgia—Bids for 15 roads. See Construction News—Roads, Streets and Paving.

Road.—Jacksonville, Fla. See Construction News—Roads, Streets and Paving.

Road.—Pensacola, Fla. See Construction News—Roads, Streets and Paving.

Sea Wall and Fill.—Constructing Quartermaster, Fort Monroe, Va.—Bids Feb. 12 for sea wall and fill, Langley Field, Va.

Steel Plates, etc.—U. S. Engr. Office, Huntington, W. Va.—Bids Feb. 3 for steel plates, etc., for repairs to gates, Dams No. 75 and 10, Ohio River.

Street.—Bastrop, La. See Construction News—Roads, Streets and Paving.

Street.—Lafayette, La. See Construction News—Roads, Streets and Paving.

Streets.—Calhoun City, Miss. See Construction News—Roads, Streets and Paving.

Truck Chassis.—Comms., D. C., Washington, D. C.—Bids Feb. 3 for 2 truck chassis with cab and body, 3000 lb. capacity.

Universal and Tool Grinding Machine.—Bureau of Supplies and Accounts, Navy Dept.,

Washington, D. C.—Bids Feb. 10 for motor driven universal and tool grinding machine.

Water Conduit.—Bd. of Awards, Baltimore, Md.—Bids Feb. 18 for furnishing, constructing and installing the 84-in. Montebello-Druid Conduit; specifications, etc., at office of City Register.

Walkways, etc.—Norfolk, Va.—See Construction News—Roads, Streets and Paving.

Trade Literature

Standardized Tanks.—The National Tank & Equipment Company, St. Louis, now associated with the Missouri Boiler & Sheet Iron Works, a shop organization with plant and fabricating facilities for producing air tight tanks, announces a standardized tank, from 120 to 20,000 gallons capacity. A folder details some of the company's activities in the manufacture of these tanks and accessories, such as lube cans, truck tanks, funnels, drain pits, unloading pumps, steel buildings, etc. The company also serves as factory distributors of the Ohio Pattern Works & Foundry Company, Cincinnati, manufacturers of bronze and brass equipment for the oil trade, including gate valves, nozzles, etc.

Large Diesels.—The Busch-Sulzer Bros. Diesel Engine Company, St. Louis, Mo., has issued a booklet devoted to large Diesels for public utilities. Due principally to the wide use of Diesel engines for ship propulsion, the past decade has brought about exceptional development of the Diesel. As one of the oldest manufacturers of this type of engine in the United States, the Busch-Sulzer Bros. organization has built over 800 engines of the 4-cycle and 2-cycle types, including stationary and marine reversing units. The new publication illustrates a number of applications of large Diesels.

Appalachian Chestnut.—The Appalachian Hardwood Club, Cincinnati, Ohio, is distributing brochure 3, prepared by David G. White, manager of its research department, and titled "Appalachian Chestnut is Available." The publication contains concise facts relating to the chestnut situation, pointing out the availability of chestnut and other Appalachian hardwoods and advancing the theory that if chestnut forests are to be killed eventually by the blight, as is possible, a sane, constructive conservation policy based on increased use of chestnut is a present need.

Gas Lines.—The A. O. Smith Corporation, Milwaukee, Wis., has issued bulletin 510, "The New Way of Designing and Building Gas Lines with Smithwelded Pipe," in which a scientific method has been worked out to determine the factors affecting a minimum cost of pipe lines, involving various combinations of pressure, volume and dimensions. In addition to descriptive data, charts and tables, the bulletin illustrates various installations of Smithwelded pipe.

Enameled Blackboards.—Armco architectural bulletin No. 1, illustrating and describing colored porcelain enameled blackboards, has been issued by the American Rolling Mill Company, Middletown, Ohio. The blackboards are a late development and will be manufactured by the American Seating Company, Grand Rapids, Mich., using Armco Ingot iron special enameling sheets as the base metal.

Oxy-Acetylene Tips.—With the January, 1931, issue, Oxy-Acetylene Tips, official publication of the Linde Air Products Company, New York, is presented in new appearance, new size and an entirely new format. During the eight and a half years of its existence, the publication has been consistently improved and the present changes, it is announced, are in conformity with the policy of the company to keep abreast of the development of the oxy-acetylene industry.

Sturtevant Filtricooler.—The B. F. Sturtevant Company, Hyde Park, Boston, Mass., has issued bulletin No. 378 devoted to the Sturtevant Filtricooler, a product for washing, filtering and cooling air. The Filtricooler is described as compact, easy to operate and dependable, with a capacity to "cool, filter and humidify as much air as a 9-foot air washer where both are handling the same amount of air at the same water pressure and with equal air velocities."

Pilbrico Representatives

The Pilbrico Jointless Firebrick Company, Chicago, announces appointment of L. R. Land, care of the O. K. Transfer & Storage Company, 531 West Main street, Oklahoma City, as its representative in Oklahoma. Mr. Land, with wide experience as boiler inspector, will provide a statewide boiler-setting and furnace-repair service, maintaining stocks of Pilbrico furnace lining at the address of the O. K. Transfer & Storage Company and at the Nichols Transfer & Storage Company, Tulsa.

Chesapeake & Ohio Revenues

For 12 months ended December 31, 1930, gross revenues of the Chesapeake & Ohio Railway Company amounted to \$137,230,375, a decrease of \$13,564,316 as compared with the year ended December 31, 1929. Operating expenses for the same period amounted to \$86,966,517, a decrease of \$11,236,448, and net operating income to \$40,523,227, a decrease of \$3,416,326. Net income after all charges was \$33,973,532, a decrease of \$2,375,809 as compared with the year ended December 31, 1929.

Seventeen New Plants for Birmingham in 1930

Prediction of brighter prospects for 1931 and a summary of what the past year has brought to Birmingham in the way of industrial expansion featured reports made by officers of the Birmingham Industrial Board at its annual meeting.

Reports of President Herbert C. Ryding and Secretary W. B. Perry stated that during 1930, 17 new manufacturing plants opened in Birmingham and 33 branch offices of Northern and Eastern manufacturing concerns. They also stated that \$10,500,000 was spent in enlargements and improvements of existing plants.

It was estimated that the city's payroll

\$4,268,000 Group Insurance

The American Chain Company, Inc., Bridgeport, Conn., announces that group life insurance to the amount of \$663,000 has been provided for employees of the Highland Iron and Steel Company, Terre Haute, Ind., a subsidiary, under a contract between the parent company and the Equitable Life Assurance Society of the United States, New York. This contract is additional to one originating in 1921, under which 4,300 employees of the American Chain Company and its other subsidiaries were covered by the Equitable with group insurance approximating \$3,005,000. The company is a large producer of chains, tools, machinery and wire products.

Reardon's Mortar Colors

The Reardon Company, Cincinnati, Ohio, representing the Reardon Color Works and the Carney Cement Company, announces Reardon's concentrated mortar colors, which are said to be 99 per cent pure, with foreign matter and filler eliminated. The use of the product is claimed to eliminate waste, while uniformity of color is automatic. A small hand package of color is used to each sack of cement or lime in the mortar.

Safety in Small Plants.—The tenth report in a series devoted to industrial safety has been issued in pamphlet form by the Policyholders Service Bureau of the Metropolitan Life Insurance Company, New York. It is entitled "Safety Activities in Small Plants" and summarizes subjects of the nine previous reports, with particular reference to their application to small industrial properties.

Business Depression.—R. O. Grant, Wichita Falls, Tex., has prepared a pamphlet "The Fundamental Causes of Business Depression," setting forth what he conceives to be the base of our business disorder. As enunciated in a foreword, Mr. Grant has made no attempt to prescribe a panacea for business ills, but "to bring out such facts and apply such reasoning as will force attention to fundamentals."

was increased by \$1,000,000 and 530 additional persons were given employment through the new concerns.

50,000-Ton Steel Rail Orders

Birmingham, Ala.—Following closely an order for 20,000 tons of steel rails from the Southern Pacific Company, the Tennessee Coal, Iron & Railroad Co. has booked an order from the Southern Railway System for 30,655 tons, which will insure the operation of the Ensley steel mills on present schedules for six months or longer. The company recently received an order for 50,750 tons of rail and about 10,000 tons of track fastenings and other accessories from the Louisville & Nashville Railroad. Other specifications are in sight, it is declared, and will be announced soon.

Warns Tariff League Membership of Rus- sian Menace

At the 46th annual meeting of the American Tariff League held recently in New York, William L. Monroe, the league's president, who also is president of the American Window Glass Company, Pittsburgh, concluded his annual address to the membership with a warning of the consequences to the United States in the success of the Russian five-year plan. Referring particularly to American co-operation with the powers of Socialism in Soviet Russia in the development of the five-year plan, Mr. Monroe said:

"To the extent that we contribute to the success of that plan we are helping to make Soviet Russia a great industrial state, and to the extent that we do this we are in danger of selling our birth-right for a mess of pottage. The danger lies not so much in the making of Russia into an industrial state. It lies in the fact that we shall have helped create a more efficient order, a more efficient machine, for the spread of Bolshevik theories and propaganda the avowed purpose of which is the destruction of our whole American economic structure. Now is the time for us to realize this."

Earlier in his address, Mr. Monroe attacked the anti-tariff program of the internationalists, whom he referred to as "war babies." He denied their claim that our import trade would be ruined by the new tariff act, pointing out that during the first five months' operation of the Hawley-Smoot law, 68 per cent of our total imports came in duty free. He denounced the retaliation argument as nothing but a scare which is periodically dragged from its shelf to be held up as a supposedly valid argument against a protective tariff policy for this country, and referred to a Senate document submitted by Senator Swanson, Democrat of Virginia, a year ago, showing that if one goes back five years before the passage of the Hawley-Smoot law, the record shows "there is hardly an important country in the world which did not revise its tariff, and revise it upward. These upward revisions by foreign countries came, many of them, even before a revision of the American tariff law was mentioned, but, of course, this fact finds no place in the internationalists' propaganda."

Mr. Monroe then referred at considerable length to the anti-tariff argument that the Hawley-Smoot law would destroy our export trade. This export trade, he said, in the case for example of the American automobile industry, accounts for about 10 per cent only of the annual production of American cars, the other 90 per cent being sold here at home in the American market to Americans.

An adequate protective tariff policy, Mr. Monroe said, is essential to safeguard this market which absorbs 90 per cent of the American automobile industry's annual output. Claiming that a protective tariff for American industry, agriculture and labor was not incompatible with the development of American foreign trade, Mr. Monroe said that if it were "it seems to me that an attitude on the part of an American industry which opposes a tariff policy to protect and build up its 90 per cent domestic market in favor of a 10 per cent foreign market, sounds a great deal like chasing rainbows."

A. Cressy Morrison, chairman of the league's executive committee, in submitting his annual report referred also to the tactics of the opponents of the American protective tariff policy, and branded them as "Liberty-bell critics." All their propaganda, Mr. Morrison said, was based on glittering generalities, implying and insinuating that the new American tariff law was a prohibitive law, whereas taken as a whole it was barely protective to American industry and labor. He pointed out that the new tariff act changed only about a third of the more than three thousand rates in the law, and referred to the extent of the revision in the agricultural schedule as compared with the other schedules. "Over half the rates in the agricultural schedule," he said, "were increased,

while in all the other schedules about a fifth of the rates on the average were increased."

At a board meeting the following officers were elected or re-elected: Wm. L. Monroe, president; Horace B. Cheney and J. J. Phoenix, vice-presidents; W. Warren Barbour, treasurer; S. Simon, assistant treasurer; Arthur L. Faubel, secretary. The newly elected executive committee is composed of A. Cressy Morrison, chairman; Eugene Chrystal, S. A. Salvage, John E. Rousmaniere, and ex-Senator Grundy.

Natural Gas for Virginia

Richmond, Va.—The Columbia Gas Corporation of Maryland, a subsidiary of the Columbia Gas & Electric Co., New York, which plans to build a pipe line from Kentucky and West Virginia gas fields, through Pennsylvania and Maryland to the District of Columbia and Virginia, will also operate in Virginia. The company's principal Virginia office will be located in Richmond with Eppa Hunton, IV, in charge. Plans will be made at once, it is said, to build pipe lines in the vicinity of Clifton Forge, Covington, Waynesboro and Lexington, and that extensions will probably be built to Alexandria, Richmond and Norfolk.

Billions of Bricks

THE Bureau of the Census announces that the total output in 1929 of clay products, other than pottery, and non-clay refractories in the United States was valued at \$297,413,023, an increase of 1.6 per cent and a decrease of 7 per cent, respectively, as compared with 1928 and 1927. The chief items included in the total for 1929 were: Common brick, 5,635,478,000, valued at \$60,181,451; vitrified brick or block for paving, 268,367,000, \$5,816,389; face brick, 2,118,409,000, \$35,787,363; terra cotta, 139,558 tons, \$14,587,911; partition, load-bearing, furring and book tile, 3,296,077 tons, \$19,746,723; conduit building tile, 510,428 tons, \$8,222,375; enameled tile, 15,958,

193 square feet, \$7,435,421; wall tile, 32,694,740 square feet, \$11,894,003; drain tile, 861,926 tons, \$6,542,821; sewer pipe, 1,676,255 tons, \$21,421,897; brick, block, or tile for locomotive and other fire-box lining, 954,490,000, \$37,099,141; silica brick, 294,402,000, \$15,165,260; magnesite and chrome brick, 17,399,000, \$5,630,647.

Of the total shown for 1929, establishments in the "clay products, other than pottery, and nonclay refractories" industry—those engaged primarily in manufacture—contributed \$296,488,702; establishments engaged chiefly in other lines of manufacture, \$655,030, and establishments reporting products valued at less than \$5000, \$269,291.

SUMMARY FOR THE INDUSTRY: 1929 AND 1927

	1929	1927
Number of establishments.....	1,767	1,846
Wage earners (average for the year).....	94,809	100,972
Wages	\$108,812,755	\$121,967,507
Cost of materials, fuel and purchased electric current....	\$83,151,899	\$99,869,669
Products, total value.....	\$298,680,515	\$319,907,843
Clay products (other than pottery) and nonclay refractories	\$296,488,702	\$318,463,599
Other products	\$2,191,813	\$1,444,244
Value added by manufacture.....	\$215,528,616	\$220,038,174

Responsibilities of Salesmen

By CHARLES F. ABBOTT,

Executive Director, American Institute of Steel Construction.

NEVER before have salesmen had such a responsibility placed upon them. Recovery in business will depend to a large extent on our ability to sell. It will be necessary to work longer hours, and harder than ever before, with smaller accounts, and to rebuild the larger accounts.

From experience as a salesman during past periods of depression, I recall that we were always successful in obtaining orders if we would forget past largenesses and concentrate on the more thorough working of the smaller towns and outlying districts, and put in more hours. Orders are always obtained by the man who is willing to work and able to sell, even in the most depressing periods.

The salesman of the future will be called upon not only to sell his merchandise at a profit, but likewise his company. He must retail his faith in the government and public officials, constructive ethical business practices, and inspire optimism and courage in the minds of all with whom he comes in contact. Salesmen must dispel pessimism wherever it exists and replace it with faith in the opportunities today holds. There are too many sitting with the defunct in business. What they need is new enthusiasm, new ideas and a new courage.

Salesmen will be called upon to fight the price-cutting evil and to insist upon sales at a profit. There is too much business in this country on poor quality. Our reputation will depend on our ability to manufacture a high grade article, trademark it, advertise it and then sell it on its merits.

I would suggest this code of selling: (1) Replace volume sales with honest, intelligent and aggressive selling at a profit; (2) one price to all, without any concession or discrimination; (3) abandon all misrepresentation; (4) abolish all secret rebates; (5) no sales at cost or below cost; (6) eliminate all commercial bribery; (7) maintain standards as established by the industry, avoiding any substitution or impairment of quality or workmanship; (8) cooperative attitude toward competitors; (9) adopt a sales policy that is fair to all, then vigorously carry it out; (10) refuse to indulge in price-cutting because of some rumor that a competitor had submitted a lower price; (11) insist that every order includes a reasonable profit; (12) support your trade organization to the limit of your ability.

The salesman must forget volume at cost or less than cost and even fight his superiors who propose such a policy. Profits should be the outstanding objective.

In periods of depression, there is always a tendency to reduce expenses in activities that should be encouraged and increased. This is no time to eliminate research, but rather to increase the appropriation for research and the development of new uses, new applications and extension of present markets. This is no time to reduce advertising appropriations; it is a period demanding tremendous expansion of advertising.

Regardless of the merits of any brand or article produced by the industry as a whole, the public will buy only when inspired to do so, and when they are convinced of its worth. Advertising has proved the best means of stimulating desire in periods of depression. So long as the elements used are truth, skill and a sound knowledge of market conditions, advertising will continue to advance industry through the bewildering mazes of the transition it is undergoing. The industry which grasps the full meaning of this requirement and adapts its policy to meet it during depressing periods will inevitably outstrip those who are unable to recognize this need, or who fail to place the proper value upon public opinion as the controlling factor in business recovery.

In a number of industries, there is actually severe trade depression due, to a large extent, to insufficient methods that have obliterated all semblance of salesmanship. If the tendency in this direction continues at the present rate, the depression will never be checked. The best hope of changing this trend lies in convincing sales executives that volume should not be the sole aim of business. We must learn that a fair volume coupled with a fair profit is far more desirable than a maximum volume coupled with a minimum profit or no profit at all.

There is no mystery about selling. The great difficulty is the lack of men in whom are combined the essentials of salesmanship. The ability to inspire action and to do so without a display of weakness is all too rare. The surest way to destroy a customer's confidence in any product is for the seller to make concessions or create the impression that business is bad. Advertising and the

application of the most improved methods of salesmanship, supplemented by promotional efforts, will prove the most economical means of effecting a business revival.

As we look forward into the future, we find much to occupy the attention of salesmen. They will be called upon to a greater extent than ever before, because the future problem of American business is in distribution. We have largely solved our problems of finance and production, but in distribution there is much that will command our attention. More efficient, aggressive salesmanship will be necessary, and costs must be reduced. The problem of the future is selling at a profit, and that has its technique quite as much as engineering or manufacturing.

We can build beautiful factories, equip them with the most modern machinery, manufacture the finest merchandise, and fill the warehouses; but what good is it all if the output cannot be sold at a profit to the ultimate consumer and placed in satisfactory service?

Arkansas Industrial Survey

Services of the American Mining Congress have been obtained by the Arkansas State Chamber of Commerce, Little Rock, for conducting an industrial survey. Besides the survey of the state as a whole, separate reports will be issued on each of the 106 cities and towns of 1000 population or more.

The work also will include a flow-of-goods survey, giving in detail information concerning commodities produced in Arkansas, what Arkansas is purchasing elsewhere, and development of information concerning industrial possibilities and employment.

Dr. Henry Mace Payne of Washington, consulting engineer to the Mining Congress and who directed a similar survey in Kentucky, will have charge of the project in Arkansas.

Manganese Shipments Higher

Increase of about 11 per cent in shipments of manganese ore containing 35 per cent or more of metallic manganese from domestic mines is reported for 1930 over 1929, by the Department of Commerce. The total for 1930 was approximately 67,000 gross tons, valued at \$1,454,000. Shipments of metallurgical ore in 1930 ran to about 55,800 gross tons, valued at \$1,040,000, compared with 47,597 tons, valued at \$1,036,199 in 1929. Chemical ore shipments at 11,200 tons, valued at \$414,000, in 1930, are comparable to 12,782 tons, valued at \$576,158, in 1929.

Explosives in Industry

E. I. DU PONT DE NEMOURS & COMPANY, in a review of the explosives field for the year 1930, summarize important developments thus:

Sales of semi-gelatinous ammonia dynamites which resist water to a marked degree increased in 1930, and improvements have been put into effect which have resulted in more plastic dynamites for the various uses to which such explosives are put. For the most part, these dynamites are replacing low grade gelatins.

For quarry operations in which well-drill holes of not over 50 feet in depth are used, free-running quarry powders have been formulated which eliminate the necessity of cartridging and permit pouring the explosive directly from bags into the hole. A series of these quarry powders has been put out and improvement also has been made in the free-running powders already in use in other operations.

In the density permissibles, the care exercised in preparation has been rewarded by a new record on sensitiveness and uniformity of cartridge count during the year. To take care of wet conditions in the shooting of coal, powders of the semi-gelatinous type have been developed which are water-resistant. In cartridges per 50 pounds, these powders are intermediate between the permissible gelatins and the low density permissibles.

Favorable reception of low density ammonia powders during the past few years has led to still further expansion of dynamites of this type, in order to meet the varied uses to which explosives are put in this country.

Blasting gelatin now can be obtained on the low freezing basis, thus making its use much safer and more convenient.

In the construction of roads through muskeg swamps, the removal of the muskeg in order to insure the settling of the fill has been a great problem. A few years ago, a method was developed of putting the fill on the surface, then

shooting out the muck from underneath, permitting the entire fill to drop into place on a solid footing. State engineers have actively experimented with this method of shooting and in the past year it has been used with marked success in several states.

Large quantities of dynamite have been used in the oil exploration work for the seismograph method of locating domes. At first, large shots close to the surface of the ground were employed, but recently the tendency has been toward smaller shots in well-drill holes at a depth of 100 feet.

In the stock grazing districts the cleaning of the "water holes," "tanks" or "springs" in the past year has been effected by shooting with ditching dynamite.

In the black powder pellets, a low density pellet, materially stronger in weight strength than the standard, was put out in 1930, and is giving excellent service in open, friable coal. Although there are more cartridges per case, the execution per cartridge is in all respects equal to the standard pellet.

As a slow-acting powder has been found particularly adaptable to close, hard coal, especially solid shooting, a special slow-acting pellet has been put out and is giving excellent results, both in solid shooting and in machine cut coal.

In the field of blasting supplies, the new type Delay electric blasting cap put out in 1929 has been perfected. The shorter length of the cap, the regularity of timing and freedom from ignition of the dynamite have created a demand for this type.

The powerful new 100-hole blasting machine developed in 1929 was marketed in 1930. This machine has been subjected to unusual service, and is reported to have performed admirably and often to have fired well over its rated number of caps. The same type of improvement has now been made in the 30 hole and 10 hole machines.

architects for this building. The Stone-Tile & Supply Company also received an order for 60,000 units from Worsham Brothers, Knoxville, Tenn., general contractors for the new \$525,000 postoffice and courthouse building under construction at Roanoke. In addition to cinder blocks and cinder tile, the local company produces Stone-Tile and general building supplies.

Orders for Cinder Block

Roanoke, Va.—The Stone-Tile & Supply Company, Inc., of this city, is now manufacturing cinder block and cinder tile and has received an order from the Southwestern State Hospital at Marion, Va., for approximately 32,000 units. Eubank & Caldwell, Roanoke, are the

Wood Pulp Census

The Bureau of the Census reports that the total value of products by establishments in the United States engaged primarily in the manufacture of wood and other pulp in 1929 amounted to \$234,824,000, an increase of 7.6 per cent as compared with \$218,198,201 reported for 1927, the last preceding census year. The total for 1929 is made up as follows: Wood pulp, \$218,058,000; other pulp, \$11,581,000; other products, \$5,185,000.

SUMMARY FOR THE INDUSTRY:

	1929	1927
Number of establishments	189	219
Wage earners (average for the year)	24,383	24,794
Wages	\$31,964,000	\$31,527,358
Cost of materials, fuel and purchased electric current	\$146,218,000	\$151,325,425
Products, total value	\$234,824,000	\$218,198,201
Wood pulp	\$218,058,000	\$207,332,666
Other pulp	\$11,581,000	\$6,844,044
Other products	\$5,185,000	\$4,021,491
Value added by manufacture	\$88,606,000	\$66,872,776

PULPWOOD CONSUMED, BY KIND OF WOOD AND QUANTITY (Cords)

	1929	1927
Spruce:		
Domestic	2,038,500	2,077,893
Imported	1,023,200	948,216
Hemlock:		
Domestic	1,222,600	1,138,783
Imported	15,400	5,948
Yellow pine, Southern	1,016,800	755,175
Poplar:		
Domestic	334,600	220,268
Imported	157,800	186,695
Balsam fir:		
Domestic	316,500	305,143
Imported	45,400	84,087
Jack pine	194,600	168,734
Yellow poplar	129,700	131,168
White fir	77,900	97,148
Beech, birch and maple:		
Domestic	77,000	78,311
Imported .....	.....	.....
Gum	39,700	64,314
Tamarack (larch)	51,800	61,104
Other wood	147,100	142,764
Slabs and mill waste	548,800	286,084
Total	7,437,400	6,750,935

For Timber Conservation


With the conservation of the timber resources of the United States as its principal objective, the National Timber Conservation Board recently met in Washington to set up a working organization and outline its general program. "Chronic over-production" was felt to be the chief obstacle to the preservation and conservation of the nation's timber resources.

Among topics which the board plans to consider are problems of taxation of timber and forest lands; sale and use of publicly owned timber; economic causes and results of the prevailing condition of over-production of forest products; proposals to divert submarginal agricultural lands to commercial forest growing, and appraisal of relative importance of forestry projects.

John H. Kirby, Houston, was among the members present.



China Goods, *Calico* & Tea

 IN 1783, when the British Troops left New York, the city's Commerce and Shipping were completely destroyed. But less than a Year later enterprising Merchants had opened the China trade. **C** Soon Ships flying the American flag were operating regularly between New York and the Far East—taking out Ginseng and Furs and returning with Silks, Spices, Sugar, Coffee and Tea. **C** Such was the *courageous start* of a new Merchant Marine! **C** During these early Years of Romance and Adventures, Merchants at the Port of New York depended upon "The Bank" to finance their shipping ventures.

FOUNDED 146 YEARS AGO, before the government of the United States was organized, this bank has always enjoyed a reputation for sta-

bility and solidity resulting from careful and conservative management.

Throughout its history, antedating the American constitution, it has believed that individual attention to the requirements of customers is the first essential for commercial banking and trusteeships.

Today, this institution, although not one of the very largest, ranks among the strongest in the country, and is entirely adequate to care for the largest estates and trusts and to offer the advantages of modern banking facilities to responsible corporations, firms and individuals.

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Red River Survey Embraces 200,000 Acres Land

Project Would Embrace Navigation, Flood Control, Power Development and Irrigation

The survey of the Red River from the mouth of the Washita River in Oklahoma to Fulton, Ark., as provided by Congressional Act of July 3, 1930, covering navigation possibilities, has practically been completed under supervision of John C. H. Lee, Major, Corps of Engineers, District Engineer, Vicksburg, Miss., and is now in the hands of the Division Engineer. Major Lee's comprehensive report for the entire Red River system is also being steadily developed and is expected to be submitted by June 1, next. This will embody all four phases of the water resource problem: Navigation, flood control, power development and irrigation, not only for the Red River itself, but also for all its tributaries.

According to George D. Moulton, Denison, Tex., secretary of the Red River Flood Control and Navigation Association, Government engineers began in February of last year their investigation of the Red River and its tributaries, surveying a reservoir site known as Red No. 1. It is understood that the survey embraces nearly 200,000 acres of lands adjacent to Red River, with about 60 per cent on the Oklahoma side and 40 per cent on the Texas side. The dam proper will be 11,000 feet long and perhaps 170 feet high, of earthen type construction. Its base width will be about 1400 feet and its crest about 100 feet. The shore line of the lake will be 1000 miles, with a water surface of 290 square miles, an average depth of 50 feet and catchment area involving about 40,000 square miles.

The Government had a hearing in connection with this project on the phase of navigation in which it was sought to bring out the potential tonnage that may be available for water transportation. It is said to have been demonstrated that 17,000,000 tons of outgoing commodities would be available, including petroleum and its products, wheat and wheat products, 3,000,000 bales of cotton and miscellaneous merchandise, and it is estimated that a saving of \$25,000,000 per annum could be made, disregarding inbound freight and service to 3,000,000 people in a territory of 120,000 square miles. The freight influence of navigation to this point, it is said, would have its effect as far as Arizona and Utah.

The survey and hearing will be reviewed early this year by the War Department, it is thought, and "there

appears to be no good reason," states Mr. Moulton, "why it should not be approved, as it involves one of the greatest beneficial projects in the United States, a flood control plan of magnitude, as the Red River at times carries off an enormous body of water."

Further, it is estimated that 100,000 horsepower of hydro-electric energy could be created and a 9-foot channel developed from the dam site to the mouth of the river, 763 miles, while thousands of

acres of bottom lands would be reclaimed at once. Irrigation is another possibility below and around the reservoir.

Mr. Moulton concludes his statement by expressing the hope that the Government will approve the enterprise, "as this project does not involve more than \$35,000,000 for the dam proper, buying the land and installing hydro-electric machinery, and the resultant navigation feature would be only of a snagging process and the usual improvement that goes with river navigation. The hydro-electric feature of it, no doubt, could be disposed of in a similar manner as was done in the Boulder Dam project and will be gladly taken over by some of the power companies now operating in this part of the United States. This would be a credit to be applied to the original cost of the project."

Investigating Lumber Production Costs

Against the possible menace of foreign importation of lumber which may endanger future prosperity of the lumber industry of the South and other parts of the United States, the Tariff Commission is now collecting data on production costs and economic conditions surrounding the industry. On the strength of these studies, the government will probably decide within the next several months whether the present duty of \$1 per thousand feet, board measure, will be increased for the protection of American labor and investment from foreign competition.

Nelson C. Brown, professor of forest utilization at New York State College of Forestry, Syracuse, and representative of the Tariff Commission, is collecting producing-cost data from the Southern Pine Association and representative Southern mills which requested that the pine industry be included in the commission's investigations. His territory extends from Texas to Virginia and from Arkansas to Florida. Mr. Brown said:

"I consider the Southern pine territory as the most important lumber producing section in the country. First because of the vastness of the area involved, second because of the excellent quality of the lumber produced, and third because of the long growing season, which makes reforestation so much more rapid than in other sections. The Southern states today supply about half the lumber produced by this country, and because of the vast tracts that are not suitable for other production except timber, the South should continue

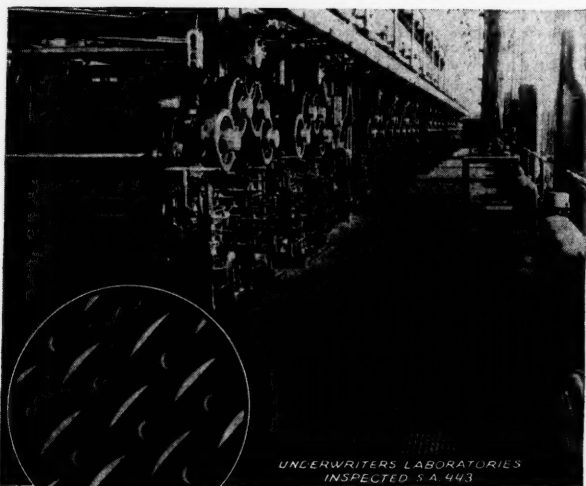
to hold the same relative importance in the industry."

Besides New Orleans, other centers will be visited, including: Montgomery, Kansas City, Laurel, Miss.; Birmingham; Hammond and Shreveport, La., and the principal Texas centers; then Georgia, Florida, the Carolinas and Virginia. The key men of the lumber industry will be visited and a detailed study made of producing costs and attendant economic conditions. According to Mr. Brown:

"The data already compiled by the Southern Pine Association is most valuable. With this for a foundation, I believe I will be able to complete my report by spring. The Tariff Commission representatives in the other lumber sections, I understand, will have their studies completed then also. Our reports and analyses will go before the commission which will make necessary recommendations to the President."

Three-fourths of the lumber imports of the United States come from Canada, about 1½ billion feet a year. Small quantities come from Russia, Scandinavia, Mexico and the tropics and even from the Orient. Though the Russian imports are relatively insignificant now, the lumber industry considers Russia a menace for the reason that Russian forests are four times the size of American forests. They occupy an area about the size of the entire United States, it is stated. Russia is throwing timber into the United States at extremely low prices, timber produced under labor conditions far below American standards.

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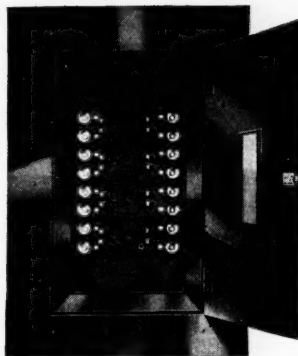
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FINANCIAL NEWS

Bond Issues Proposed

Ark., Helena—Helena Special School Dist., opens bids Feb. 9 for \$125,000, 4½, 4¾, 5, 5½, 5¾ or 6%, \$1000 denom. bonds.

Ark., Rogers—Rogers School Bd. voted \$30,000 6% bonds.

Fla., Perry—Town, J. E. Powell, Clk., received no bids for \$30,000, 6% refunding bonds. 12-25

Ga., Atlanta—Fulton County plans school bond election.

La., Greton—Dr. Charles F. Gelbke, Mayor, authorized by Bd. of Aldermen to call special election for Feb. 18 on \$150,000 sewer disposal works bonds.

La., Harrisonburg—Catahoula Parish Police Jury, J. K. McGee, Sec., opens bids Feb. 18 for \$15,000, 6% public improvement bonds.

La., Lafayette—City opens bids Feb. 16 for \$250,000 paving bonds.

Md., Baltimore—City, Wm. F. Broening, Mayor, plans voting in May on loans aggregating \$68,500,000, including \$10,000,000 for further extension of sewerage system; \$10,000,000 additional for streets and bridges, and \$1,500,000 for further extension of conduit system for electric wires; \$35,000,000 for additional water supply and \$10,000,000 for new school buildings and improvements to existing buildings. 1-8

Miss., Jackson—State Bond Comsn., H. C. Yawn, State Treas., opens bids Feb. 10 for \$1,250,000 bonds and certificates of indebtedness.

Miss., Jackson—State Bond Comsn., H. C. Yawn, Treas., opens bids Feb. 10 for \$750,000, not to exceed 5½%, \$5000 denom. certificates of indebtedness, and \$500,000, 5½%, \$1000 denom. hospital removal coupon bonds.

Miss., Pascagoula—Jackson County Supvrs. called election for Feb. 7 on \$20,000 Hurley Consolidated School Dist. bonds.

N. C., Fayetteville—Cumberland County Comms., C. C. Howard, Clk., will sell \$50,000 revenue anticipation notes at public or private sale.

N. C., Gastonia—City will ask Legislature for authority to issue \$179,000 bonds and notes.

N. C., Marion—Bd. of Aldermen passed resolution providing for \$50,000 improvement bond issue.

N. C., Smithfield—Johnston County Highway Comsn. authorized by County Comms. to issue \$185,000 road bonds.

Okla., Erick—City votes Feb. 17 on \$50,000 natural gas system bonds. 1-8

Okla., Shawnee—City plans voting on \$225,000 water supply bonds.

S. C., Columbia—City, G. F. Cooper, Clk. and Treas., opens bids Feb. 10 for \$46,000, not to exceed 6% coupon assessment bonds.

Tenn., Charlotte—Dickson County authorized by Legislature to issue \$200,000, 5½%, \$1000 denom. county funding bonds.

Tenn., Clarksville—City, R. A. Gardner, City Attorney, will ask Legislature for authority to issue \$105,000 bonds.

Tenn., Memphis—City, D. C. Miller, Clk., asked Legislature for permission to issue \$3,000,000 bonds for Water Dept.

Tex., Ballinger—Runnels County Road Dist. No. 4 votes Feb. 7 on \$610,000 road bonds.

Tex., Beaumont—City votes soon on \$100,000 of air park bonds.

Tex., Big Spring—Howard County votes Feb. 21 on \$900,000 road bonds. 1-8

Tex., Big Spring—Howard County, M. H. Morrison, Chmn., Good Roads Committee, probably call new election soon on \$900,000 road bonds. 1-8

Tex., Crane—Crane School Dist. votes Feb. 2 on \$125,000 bonds.

Tex., El Paso—El Paso County, E. B. McClintock, County Judge, rejected \$860,000 hospital, flood control and Grandview section road improvement bonds. 12-25-30

Tex., Fort Worth—City, O. E. Carr, City Mgr., opens bids Feb. 3 for \$700,000, 4½% bonds; \$600,000, street; \$100,000, airport.

Tex., Fort Worth—City, O. E. Carr, City Mgr., opens bids Feb. 3 for \$500,000, 4¾% Water Dept. revenue bonds.

Tex., Kerrville—Kerr County, Real., County Judge, opens bids Feb. 10 for \$250,000, 5%, \$1000 denom. coupon road bonds. 1-22

Tex., Lufkin—Angelina County votes Feb. 21 on \$100,000 bonds for Precinct 2, Road Dist. 2.

Tex., Mercedes—City probably hold election on \$735,000 bonds to retire warrants and other city indebtedness.

Tex., Nixon—City defeated \$35,000 street improvement bonds. 1-8

Tex., Pearsall—Pearsall Independent School Dist. advises not issuing \$40,000 bonds. 1-22

Tex., San Angelo—City soon call election on \$12,600 bonds for Glenmore school.

Tex., Seminole—Gaines County, J. J. Kendrick, County Judge, votes Feb. 28 on \$250,000 bonds for building hard surfaced road north and south through county; election for Jan. 17 called off. 1-15

Tex., Slidell—Slidell Independent School Dist. voted \$15,000, 5% school building bonds.

Tex., Snyder—Scurry County, C. R. Buchanan, County Judge, defeated \$600,000 road and bridge bonds. 1-1

Tex., Texarkana—City, R. E. Floyd, Sec., voted \$90,000 bonds for relocating and paving State Line Ave. to make available a site for Federal building. 12-25-30

Tex., Wellington—Collingsworth County, Edward Brown, County Judge, reported, votes Feb. 21 instead of Feb. 14 on \$175,000 courthouse building bonds. 1-22

Tex., Wharton—City voted \$65,000 improvement bonds; \$28,000, street improvements; \$25,000, city hall and fire station; \$12,000, water works. 1-15

Tex., Wichita Falls—City, W. E. McBroom, Clk., voted \$1,000,000 water works improvement bonds; will sell about Mar. 1. 1-1

Tex., Wichita Falls—City, N. Broom, Clk., voted \$1,000,000 water works bonds; sell about Mar. 1. 1-1

Va., Buena Vista—City Council adopted resolution authorizing sale of \$30,000, 5% water bonds.

Va., Falls Church—Town Council, Charles Gage, chairman of special committee, plans calling new election on \$125,000 water works bonds. 1-22

Va., Richmond—City, Dept. of Public Works, Bureau of Sewers and Bridges, T. L. Cockrell, Ch. of Bureau, has \$350,000 sewer bonds approved. 12-25-30

Va., Roanoke—City, P. H. Tucker, City Clk., voted \$950,000 bonds: \$450,000, street; \$300,000, sewer. 1-8

Bond Issues Sold

Fla., Jacksonville—City Comsn., St. Elmo W. Acosta, Chmn., sold \$2,000,000 serial refunding bonds to Mercantile Trust Co. and Baker, Watts & Co., both of Baltimore, Md., and Eldredge & Co., New York, at 5% on first \$796,000 of maturities and 5½% on last \$1,204,000, plus \$14,800 premium. 12-25-30

Ga., Atlanta—City sold \$13,000, 4¼% coupon bonds to J. H. Hilsman & Co., and Citizens & Southern Co., jointly at 102.33.

Mo., Clarksville—City sold \$11,000, 4% refunding bonds to Mississippi Valley Co., St. Louis, at 89.09.

Mo., Cuba—City sold \$30,000, 5½% water works bonds to Mississippi Valley Co., St. Louis.

Mo., Jefferson City—State Bd. of Fund Comms., Larry Brunk, State Treas., sold \$5,000,000, 4%, \$1000 denom. bonds to group headed by Harris Forbes & Co., New York. 1-15

Mo., Maplewood, St. Louis—City sold \$85,000, 4½% school bonds to Mississippi Valley Co., St. Louis, at 100.29.

Mo., Versailles—Morgan County, reported, sold \$200,000, 4¾% refunding bonds at par to Mississippi Valley Co., St. Louis, and Stern Bros. & Co., Kansas City, jointly.

N. C., Canton—Canton Graded School Dist., A. J. Hutchins, Supt. of Schools, sold \$15,000, 6%, \$1000 denom. bonds to Slepp & Princell, Chicago, Ill., at 115.100. 1-15

N. C., Charlotte—Mecklenburg County sold \$100,000 refunding notes to Commercial National Bank at 4%.

Okla., Oklahoma City—Putnam City Consolidated School Dist. No. 1, Route 4, sold \$25,000 school bonds to C. Edgar Honnold, Oklahoma City.

Okla., Sand Springs—City recently sold \$53,282, 6%, \$500 denom. coupon improvement bonds to Hanchett Bond Co., Chicago.

Okla., Tulsa—Tulsa County Union Consolidated School Dist. No. 2, reported, recently sold \$14,000 bonds to Exchange National Co., Tulsa, at par.

Okla., Tulsa—City, George Watkins, Mayor, sold 9 bond issues aggregating \$1,750,000 to

syndicate composed of Mercantile Commerce Co., St. Louis, Mo.; First National Co., Exchange National Co., R. J. Edwards, Inc., and C. Edgar Honnold, all Oklahoma City, at par, as follows: \$450,000 as 5s, \$930,000 as 4½s and \$370,000 as 4½s.

Tex., Huntsville—Huntsville Independent School Dist. sold \$150,000, 5% school bonds to A. C. Allyn & Co., Chicago, Ill., at 98.53. 12-25-30

Tex., Jordanton—Atascosa County Road Dist. No. 4 recently sold \$221,000, 5½% refunding road bonds to H. D. Crosby & Co., San Antonio.

Va., Cape Charles—Northampton County sold \$10,000, \$1000 denom. refunding bonds to Weil, Roth & Irving Co., Cincinnati, Ohio, as 6s, at 100.88. 1-15

Va., Parksley—Metomkin Magisterial Dist. sold \$60,000 coupon school building bonds to Frank Parsons, Capeville, as 5s, at par.

New Financial Corporations

Fla., New Smyrna—Walter D. Burgess, Albert I. Posser and Frank D. Bristley plan organizing bank.

Ky., Booneville—Farmers State Bank, capital \$15,000, chartered; W. N. Hughes, G. W. Garrett.

Ky., Catlettsburg—Kentucky-Farmers Bank, capital \$100,000, chartered; John Russell, Frank Gibbs.

Ky., Paducah—Robert L. Reeves and John G. Russell plan organizing national bank here.

Ky., Louisville—Mutual Standard Bank, capital \$100,000, chartered; Joseph R. Rap, Pres.; L. T. Phillips, Cashier.

Mo., Kansas City—Real Estate Bond & Share Corp. chartered; E. M. Helm, 3410 Monroe St.

Mo., St. Louis—Paramount Securities Corp., chartered; Jesse G. Johnson, W. A. Killian.

S. C., Greenville—Securities Investment Co., capital \$100,000, chartered; Robert I. Woodside, Pres., Woodside Bldg.

Tenn., Memphis—Planters Agricultural Credit Corp., capital \$250,000, formed; J. P. Norfleet, 109 S. Front St.

Va., Crozet—People's Bank of Crozet, capital \$50,000, chartered; George R. B. Michie, Pres.; T. B. Behrendt, Cashier, both Charlottesville.

American Mutual Savings Bank, John Blanton, Pres., and First Standard Bank, Wilson Lovett, Pres., both Louisville, Ky., completed negotiations for merger.

Bank of Dallas, S. N. Boyce, Pres., Dallas, N. C., will reopen.

Bank of Oak Grove, J. M. McIntosh, Pres., Oak Grove, La., plans reorganizing and reopening.

Bank of Sturgis, Chas. H. Ellis, Pres., Sturgis, Ky., plans reopening.

Central Savings Bank & Trust Co., A. Barbour, Pres., and Citizens Bank & Trust Co., Otto Wolf, Pres., both Newport, Ky., has merger approved by W. A. Dicken, State Banking Commr., Frankfort.

Citizens Bank of Yancey, B. F. Watson, Pres., Burnsville, N. C., plans reopening.

Clayton Banking Co., J. D. Barbour, Pres., Clayton, N. C., plans reopening.

Farmers & Merchants' Bank, John Russell, Pres., and Kentucky National Bank, G. F. Gunnell, Pres., both Catlettsburg, Ky., have merger approved by W. A. Dicken, State Banking Commr., Frankfort.

First National Bank, J. J. Harry, Pres., acquiring deposits of Commercial Bank & Trust Co., B. C. Bowen, Pres., both Gulfport, Miss.

First National Bank, Gastonia, N. C., plans reopening.

Fifth Third Union Co., Cincinnati, Ohio, investment affiliate of Fifth Third Union Trust Co., changing name to Fifth Third Securities Co.

Nashville National Bank, P. D. Houston, Chmn. of Bd., Nashville, Tenn., increased capital to \$3,000,000.

Peoples National Bank, M. M. Haygood, Pres., and First National Bank, J. W. Oglesby, Ch. of Bd., both Quitman, Ga., applied to Comptroller of Currency, Treasury Dept., Washington, for permission to merge.

Union National Bank, Lenoir, N. C., capital \$150,000, F. H. Coffey, Pres., opening as successor to First National Bank.

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And so, taking pardonable pride in what has been accomplished, we propose in a series of advertisements to tell something of the work here—what it means to the community and the state and, we venture to believe, to the nation.

There has been created from the early beginning an enterprise which employs 6,000 men, maintains its own trade schools in which there are always more than 200 pupils gaining technical knowledge for future need in our work, and has, in its medical clinic and welfare department, won the unstinted praise of those who know the advantage of the most up-to-date methods.

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From the building of gunboats, destroyers, cruisers and battle-ships for the United States Navy and merchant ships for private owners, this plant has grown to include a wide field of products embracing hydraulic turbines and other hydro-electric plant accessories and is prepared to meet industrial needs of wide variety.

Newport News Shipbuilding and Dry Dock Company
NEWPORT NEWS, VA.

233 Broadway, New York City



BOND ISSUES

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PROPOSALS

Bids close February 3, 1931.

U. S. Engineer Office, Memphis, Tenn.—Sealed bids will be received until 2:00 p. m., Feb. 3, 1931, and then opened, for furnishing steel hull and pumping machinery for U. S. Dredge Henry Flad. Information on application.

Bids close February 18, 1931.

U. S. Engineer Office, Jacksonville, Fla.—Sealed bids, in duplicate, will be received here until 12 noon, February 18, 1931, and then opened, for furnishing all labor and materials and performing all work for repairing approximately eight miles of training walls and revetments, St. Johns River, Florida, between the entrance and Dames Point. Further information on application.

Bids close February 26, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., January 24, 1931.—SEALED BIDS, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., February 26, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office, etc., at Madisonville, Ky. Drawings and specifications, not exceeding one set, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$15.00 is made to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. JAS. A. WETMORE, Acting Supervising Architect.

Bids close February 24, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., January 20, 1931.—SEALED BIDS, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., February 24, 1931, for furnishing all labor and materials and performing all work for the construction (except elevator, etc.), of the U. S. post office, court house, etc., at Bartlesville, Okla. Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$25.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. JAS. A. WETMORE, Acting Supervising Architect.

Bids close February 25, 1931.

U. S. Department of Agriculture, Bureau of Public Roads, Washington, D. C., January 20, 1931. SEALED BIDS, subject to the conditions contained herein, will be received until eleven o'clock a. m., February 25, 1931, and then publicly opened, for furnishing all labor and materials and performing all work for Unit IV of the Mount Vernon Memorial Highway. Duplicate copies are not required. Unit IV begins on Columbia Island in the Potomac River at a point approximately 1300 feet south of the center line of the Arlington Memorial Bridge Plaza and extends to the entrance gates of Mount Vernon, being located partly in the District of Columbia, partly in Alexandria, Virginia, and partly in Arlington and Fairfax counties, Virginia. Unit IV is approximately 15.361 miles long and consists of paving the highway and incidental construction as scheduled herein after. The work to be done under this unit has been divided into two sections. Separate bids will be received for the work embraced in either section. Bidders, if they so desire, may submit bids both for the work divided into sections and for the work as a whole, in which event the amount of the guarantee required with the bid will be not less than 20 per cent of the larger total for the unit. The right is reserved to let the work as a single contract or to award separate contracts for the work embraced in each section, as may appear to be the best interest of the Government. The bids will be opened in the office of the

GENERAL INFORMATION About Proposal Advertising in Manufacturers Record

PUBLICATION DAY: Thursday.
FORMS CLOSE: 10 A. M. Tuesday.

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THE DAILY CONSTRUCTION BULLETIN OF THE MANUFACTURERS RECORD

Published every business day, gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Construction Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal requirements.

The rate is the same for both publications—35 cents a line each insertion.

Chief, Bureau of Public Roads, U. S. Department of Agriculture. Information for bidders, together with forms and questionnaires, may be obtained in the office of the Bureau of Public Roads, Willard Building, Washington, D. C. Each bidder must submit with his bid, or previously, an attested statement, on the prescribed forms, of the business and technical organization of the bidder, available for the contemplated work, including financial resources and highway construction experience, compared with the project bid upon. The United States expressly reserves the right to reject any bid in which the facts as to business and technical organization, financial resources, or construction experiences, compared with the project bid upon, justify such rejection. Bidders must submit with their bids a plan and equipment questionnaire showing in complete detail the proposed manner of handling the contract, the organization of forces, the equipment and equipment layout, camp set-ups and other pertinent information. SECTION 1 of Unit IV consists of paving the highway from the beginning on Columbia Island to Station 404, a distance of approximately 7.567 miles, together with the incidental construction required. Station 404 is approximately at the south end of the Hydraulic Fill over Hunting Creek south of Alexandria. The approximate quantities of each item of work for Section 1 are as follows: 1, 125,500.0 cu. yds. unclassified excavation; 2, 3,886.0 cu. yds. unclassified excavation for structures; 3, 19,200.0 cu. yds. unclassified excavation for borrow; 4, 80,000.0 sta. yds. over-haul; 5, 17,500.0 cu. yds. gravel sub-base course; 6, 93,210.0 sq. yds. clay bound gravel base course; 7, 26,700.0 sq. yds. dry choked stone base course; 8, 100,840.0 sq. yds. bituminous concrete base course; 9, 75,330.0 sq. yds. reinforced concrete base course; 10, 49,550.0 sq. yds. plain concrete base course; 11, 178,390.0 sq. yds. bituminous concrete surface course; 12, 49,550.0 sq. yds. sheet asphalt pavement; 13, 38.0 cu. yds. class A concrete; 14, 320.0 lbs. reinforcing steel; 15, 6.6 cu. yds. cement rubble masonry; 16, 5.0 cu. yds. dry rubble masonry; 17, 2.1 cu. yds. brick masonry; 18, 3,091.0 lin. ft. culvert pipe, 8-inch diameter; 19, 1,045.0 lin. ft. culvert pipe, 12-inch diameter; 20, 506.0 lin. ft. culvert pipe, 18-inch diameter; 21, 790.0 sq. yds. vitrified block gutter; 22, 19,550.0 lin. ft. concrete curb, 20-inch depth; 23, 1,480.0 lin. ft. concrete curb, 18-inch depth; 24, 23,710.0 lin. ft. concrete curb, 15-inch depth; 25, 8,150.0 lin. ft. concrete curb, 12-inch depth; 26, 3,950.0 lin. ft. combination curb and gutter; 27, 3 each manholes; 28, 10 each cast iron frames and gratings, type A; 29, 62 each cast iron frames and gratings, type B; 30, 4 each cast iron frames and gratings, type C; 31, 81,000.0 lin. ft. low guard rail; 32, 3,920.0 lin. ft. high guard rail; 33, 40 each adjusting street

structures; ALTERNATE BID FOR ITEM 13: 41, 178,390.0 sq. yds. cold laid bituminous concrete pavement, or 42, 178,390.0 sq. yds. sandrock asphalt pavement; ALTERNATE BID FOR ITEMS 14 AND 25: 43, 50,340.0 sq. yds. vitrified brick pavement. The above tabulation for Section 1 includes 8-inch, 12-inch and 18-inch culvert pipe. For these items bids will be received on either Concrete Pipe or Vitrified Clay Pipe or on both. SECTION 2 consists of paving the highway from the end of Section 1 to the end of the highway as described above, a distance of approximately 7.794 miles, together with the incidental construction required. The approximate quantities of each item of work for Section 2 are as follows: 1, 25,000.0 cu. yds. unclassified excavation; 2, 914.0 cu. yds. unclassified excavation for structures; 3, 7,550.0 sq. yds. clay bound gravel base course; 4, 26,000.0 sq. yds. bituminous macadam surface course; 5, 203,500.0 sq. yds. reinforced concrete pavement; 6, 32.0 cu. yds. class A concrete; 7, 440.0 lbs. reinforcing steel; 8, 4.7 cu. yds. cement rubble masonry; 9, 10.0 cu. yds. dry rubble masonry; 10, 5.0 cu. yds. brick masonry; 11, 600.0 lin. ft. culvert pipe, 8-inch diameter; 12, 420.0 lin. ft. culvert pipe, 12-inch diameter; 13, 158.0 lin. ft. culvert pipe, 18-inch diameter; 14, 100.0 sq. yds. grouted rubble gutter; 15, 2,870.0 lin. ft. concrete curb, 20-inch depth; 16, 737.0 lin. ft. concrete curb, 16-inch depth; 17, 36.0 sq. yds. brick walks; 18, 11 each cast iron frames and gratings, type A; 19, 36.0 each cast iron frames and gratings, type B; 20, 20,900.0 lin. ft. low guard rail; 21, 9,960.0 lin. ft. high guard rail. The above tabulation for Section 2 includes 8-inch, 12-inch and 18-inch culvert pipe. For these items bids will be received on either Concrete Pipe or Vitrified Clay Pipe or on both. ENTIRE WORK. The approximate quantities for the entire work are the summation of the items and quantities contained in the tabulations for Sections 1 and 2. Where copies of plans are furnished bidders, a deposit of \$30.00 will be required to insure their return. All checks should be made payable to A. Zappone, Disbursing Clerk, U. S. Department of Agriculture. If within 15 days after opening bids plans are not returned, the deposit will be forfeited to the Government. Guarantee will be required with each bid as follows: In the sum of not less than 20 per cent of the total amount bid for the work. If certified check is furnished it should be made payable to A. Zappone, Disbursing Clerk, U. S. Department of Agriculture. Performance bond will be required as follows: In the sum of 100 per cent of the total amount bid for the work awarded. Performance must begin within 15 calendar days after date of receipt of notice to proceed and must be completed within 320 calendar days from that date. Liquidated damages for delay will be as follows: For Section 1 the amount of \$150 for each calendar day of delay until the work is completed and accepted. For Section 2 the amount of \$150 for each calendar day of delay until the work is completed and accepted. For the entire work the amount of \$300 for each calendar day of delay until the work is completed and accepted. Partial payments will be made as stipulated in the specifications. Article on patents will be made a part of the contract, but attention is invited to Special Provision Number (16). Bids must be submitted upon the Standard Government Form of Bid and the successful bidder will be required to execute the Standard Government Form of Contract for Construction. The right is reserved, as the interest of the Government may require, to reject any and all bids, to waive any informality in bids received, and to accept or reject any items of any bid, unless such bid is qualified by specific limitation. Envelopes containing bids must be sealed, marked and addressed as follows: "Bid for — Unit IV, Mount Vernon Memorial Highway, Bureau of Public Roads, U. S. Department of Agriculture, Washington, D. C. To be opened at 11:00 a.m., February 25, 1931. Submitted by

(Name of Contractor.)

THOS. H. MacDONALD, Chief of Bureau.

Bids close February 6, 1931.

Sealed Bids, in duplicate, will be received at the U. S. Engineer Office, Rock Island, Illinois, until 11 A. M., February 6, 1931, and then publicly opened, for furnishing all labor and materials and performing all work for the enlargement of existing levee and for the construction of new levee in the Bay Island Drainage and Levee District No. 1, Illinois. Further information on application.

Bids close February 10, 1931.

U. S. Engineer Office, Wilmington, N. C. Sealed bids, in duplicate, will be received until 12 o'clock noon, February 10, 1931, and then publicly opened, for furnishing all labor and materials and performing all work for dredging a total of approximately 10,383,313 cubic yards in the Cape Fear River to Little River portion of the Intra-coastal Waterway from Cape Fear River, N. C., to St. Johns River, Fla.

Bids close March 3, 1931.

DEPARTMENT OF INTERIOR, Washington, Jan. 22, 1931. Sealed proposals in duplicate will be received at the Department until two o'clock P. M., Tuesday, March 3, 1931, for furnishing all labor and materials for installing complete at Saint Elizabeths Hospital, Washington, D. C., one turbo generator set and exciter, with all necessary pumps, condensers, piping, valves and instruments; one open type feed water heater, and one zeolite water softener, in accordance with specifications, copies of which may be obtained from the Superintendent, Saint Elizabeths Hospital, or the Chief Clerk of the Department. The right is reserved to reject any or all bids, waive technical defects, or to accept one part and reject the other as the interests of the Government may require. Proposals must be marked "Proposals for turbo generator set at Saint Elizabeths Hospital" and be addressed to the Secretary of the Interior, Washington, D. C. JOHN H. EDWARDS, Assistant Secretary.

Bids close February 21, 1931.

SEALED BIDS, in triplicate, subject to the conditions contained herein, will be received by the U. S. Veterans Bureau, Room 764, Arlington Building, Washington, D. C., until 2:30 P. M., February 21, 1931, and then publicly opened, for furnishing all labor and materials and performing all work required for constructing and finishing complete at U. S. VETERANS HOSPITAL, WACO, TEXAS, BUILDINGS AND UTILITIES, including roads, walks, grading and drainage. This work will include excavating, reinforced concrete construction, hollow tile, brick work, cut stone, cast stone, architectural terra cotta, marble work, floor and wall tile, rubber tile, compressed asphalt tile and linoleum floors, terrazzo, iron work, flag pole, steel sash, steel stairs with slate treads, steel shelving, cabinets and partitions, tile, metal and built-up roofing, roof ventilators, lightning conductor, metal lathing, plastering, carpentry, platform scale, metal weatherstrips, insect screens, window shades, painting, glazing, hardware, plumbing, vacuum cleaning system, refrigerating and ice making plant, zeolite water softening system, boiler plant, radial brick chimney, heating and ventilating, electrical work, electric elevators, nurses call system, fire alarm system and outside sewer, water, gas, steam and electric distribution systems. SEPARATE BIDS will be received for (a) General Construction, including Radial Brick Chimney; (b) Plumbing, Heating, Electrical Work and outside distribution systems; (c) Electric Elevators; (d) Steel Water Tank and Tower; (e) Zeolite Water Softening System; (f) Refrigerating and Ice Making Plant; all as set forth on bid forms. Bids will be considered only from individuals, firms or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract, and in making awards, the records of bidders for expedition and satisfactory performance on contracts of similar character and magnitude will be carefully considered. At the discretion of the Director, drawings and specifications may be obtained upon application to the Construction Division, Room 764, Arlington Building, Washington, D. C. Deposit with application of a check or postal money order for \$100.00, payable to the TREASURER OF THE UNITED STATES, is required as security for safe return of the drawings and specifications within ten days after date of opening bids. GEORGE E. IJAMS, Director, January 17, 1931.

Bids close February 10, 1931.

Roads and Bridges

Richmond, Va.

Sealed bids will be received February 10, 1931, office of the Va. Dept. of Highways, Richmond, Va.

Proj.	Type	Surface	Excava.	Cu. Yds.
592	4 Mi. Mac.	43,451	116,365	
640	3.2 Mi. Mac.	56,233	35,323	
675	5 Mi. Mac.	80,242	33,410	

BRIDGES

Proj.	Span	Cu. Yds.	Lbs.
506	3-30 ft. & 1-90 ft.	314.4	145,490
506B5	2-45 ft. & 1-75 ft.	390.4	132,935
647	1-40 ft.	167.2	23,155

Details obtainable upon request.

Bids close February 3, 1931.

Maryland Highway Work

STATE OF MARYLAND
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md.

SEALED PROPOSALS for building two sections of State Highway as follows:

St. Mary's County, Contract No. SM-79-82—One section of State Highway along the Oakville-Sandgates road from the end of Contract No. SM-73 to Sandgates, a distance of 1.44 miles (gravel).

Worcester County, Contract No. Wo-90-14—Federal Aid Project No. 225—One section of State Highway along the Berlin-Libertytown road from the end of Contract No. Wo-66 toward Libertytown, a distance of 1.13 miles (concrete) will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M. on the 3rd day of February, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 20th day of January, 1931.

G. CLINTON UHL, Chairman.

L. H. STEUART, Secretary.

Bids close February 10, 1931.

Louisiana Highway Work

Baton Rouge, La.

Sealed Proposals for the construction of the following projects will be received by the Louisiana Highway Commission, Room No. 614, Louisiana National Bank Building, Baton Rouge, Louisiana, until 9:45 o'clock A. M. on Tuesday, February 10, 1931. Proposals will not be received after this hour. At 10 o'clock A. M. of the same day and date they will be publicly opened and read in the Chamber of House of Representatives in the State Capitol Building:

(Bond) PROJECT NO. 1101—OAKDALE-GLENMORA HIGHWAY—Located in Allen and Rapides Parishes, Route 24. Length 11.4 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.50.

(Bond) PROJECT NO. 1300—DONALDSONVILLE - NAPOLEONVILLE HIGHWAY—Located in Ascension and Assumption Parishes, Route 29. Length 16.5 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$3.00.

(Bond) PROJECT NO. 1502—DERIDDER-ENNES HIGHWAY—Located in Beauregard Parish, Route 42. Length 11.2 miles, width 18 feet. Type, Portland Cement Concrete and other work in connection therewith. Charges for plans, \$2.50.

(Bond) PROJECT NO. 2301—HOMER-MINDEN HIGHWAY—Located in Caliborne and Webster Parishes, Route 11. Length 12.0 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.50.

(Bond) PROJECT NO. 2450—FERRYDAY-JONESVILLE HIGHWAY—Located in Concordia Parish, Routes 3 and 6.

Length 19.0 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$3.00.

(Bond) PROJECT NO. 2500—GRAND CANE-STONEWALL HIGHWAY—Located in DeSoto Parish, Route 1. Length 15.6 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$3.00.

(Bond) PROJECT NO. 2601—BATON ROUGE-CLINTON HIGHWAY—Located in East Baton Rouge Parish, Route 36. Length 9.6 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(Bond) PROJECT NO. 3000—ARCHIBALD-WINNSBORO HIGHWAY—Located in Franklin and Richland Parishes, Route 15. Length 13.7 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.50.

(Bond) PROJECT NO. 3105—WILLIANA-ALEXANDRIA HIGHWAY—Located in Grant and Rapides Parishes, Route 99. Length 18.5 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$3.00.

(Bond) PROJECT NO. 3202—NEW IBERIA-ERATH HIGHWAY—Located in Iberia Parish, Route 25. Length 10 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(Bond) PROJECT NO. 4151—DOYLE-HAMMOND HIGHWAY—Located in Livingston and Tangipahoa Parishes, Route 7. Length 15.3 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$3.00.

(Bond) PROJECT NO. 4750—GRETNAL-OAKVILLE HIGHWAY—Located in Jefferson and Plaquemine Parishes, Route 31. Length 9.0 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(Bond) PROJECT NO. 5300 (Readvertise-ment)—PACKENHAM-ST. BERNARD HIGHWAY—Located in St. Bernard Parish, Routes 32 and 1. Length 11.8 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.50.

(Bond) PROJECT NO. 5803—OPELOUSAS-SWORDS HIGHWAY—Located in St. Landry Parish, Route 7. Length 9.4 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(Bond) PROJECT NO. 6702—ROSEPINEL-LEESVILLE HIGHWAY—Located in Vernon Parish, Route 42. Length 15.6 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$3.00.

(Bond) PROJECT NO. 7001—PORT ALLEN-PLAQUEMINE HIGHWAY—Located in W. Baton Rouge and Iberville Parishes, Routes 30, 168 and 1101. Length 13.1 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.50.

(Bond) PROJECT NO. 7302—WINNFIELD-GRAND ECORE HIGHWAY—Located in Winn Parish, Route 6. Length 14.0 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.50.

(Bond) PROJECT NO. 6105—MANDEVILLE-SLIDELL HIGHWAY—Located in St. Tammany Parish, Route 34. Length 10.0 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(Bond) PROJECT NO. 6800—FRANKLINTON-BOGALUSA HIGHWAY—Located in Washington Parish, Route 35. Length 19 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$3.00.

(Bond) PROJECT NO. 3401—QUITMAN-RUSTON HIGHWAY—Located in Jackson and Lincoln Parishes, Route 5. Length 13.2 miles, width 18 feet. Type, Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.50.

Full information and proposal forms are available at the offices of the Highway Commission at Baton Rouge. Plans and specifications may be inspected there or will be furnished upon payment of amounts specified above (not to be refunded).

HARRY B. HENDERLITE,
State Highway Engineer.
O. K. ALLEN, Chairman,
Louisiana Highway Commission.

Bids close February 6, 1931.

Airport Retaining Wall

BOARD OF LEVEE COMMISSIONERS
ORLEANS LEVEE DISTRICT,
NO. 606 COMMON STREET,
NEW ORLEANS, LOUISIANA.

New Orleans, La., Jan. 6, 1931.

Sealed proposals will be received at the office of the Board of Levee Commissioners of the Orleans Levee District, at New Orleans, La., Friday, February 6, 1931, at 12 o'clock noon, and then publicly opened, for furnishing all labor, material and equipment necessary for the construction of a concrete Retaining Wall and Auxiliary Work on the shore of Lake Pontchartrain, beginning at a point 1000 feet east of the center line of the Industrial Canal and terminating at a point about 5500 feet east of the point of beginning.

A deposit of Fifty Thousand Dollars (\$50,000.00) in cash or certified check will be required with each proposal.

When notarial contract is entered into, a surety bond in the amount of 50% of the cost of the contract will be required to be furnished by a Surety Company authorized to do business in Louisiana, to ensure the satisfactory execution and completion of the work.

Plans and specifications are on file in the office of the Board of Levee Commissioners of the Orleans Levee District at No. 606 Common Street, New Orleans, La., and will be furnished to prospective bidders upon payment of Fifty Dollars (\$50.00), which will be refunded upon the return of the same in good condition.

The right is reserved to reject any or all bids and to waive informalities.

For further information address John Klorer, Chief Engineer, Orleans Levee Board, No. 606 Common Street, New Orleans, Louisiana.

A. L. SHUSHAN,
President.

CHAS. J. DONNER,
Secretary.

Bids close February 6, 1931.

Office of Public Buildings and Public Parks, Room 1031, Navy Building, Washington, D. C. Sealed bids will be received until 11 A. M., February 6, 1931, for the construction of an office building for the American Red Cross. This building will be approximately 228 by 62 feet, with five stories, attic and basement, and will be constructed of structural steel and reinforced concrete with marble exterior. All mechanical work is included. A deposit in the form of a certified check for \$100 will be required to secure plans. Further information upon application.

Bids close February 18, 1931.

Water Conduit

BUREAU OF WATER SUPPLY

Baltimore, Md.

Sealed bids, in duplicate, endorsed "Proposals for Furnishing, Constructing and Installing the 84-inch Montebello-Druid Conduit," addressed to the Board of Awards of Baltimore City, will be received at the office of the City Register, City Hall, Baltimore, Md., until 11 A. M., Eastern Standard Time, Wednesday, February 18, 1931, at which time they will be publicly opened and read.

Specifications, plans and proposal forms may be obtained at the office of the Water Engineer, Room 501 Municipal Office Building, Baltimore, Md., on and after January 30, 1931. A charge of ten dollars (\$10.00) will be made for each set of specifications, and this amount will not be refunded.

All bids must be accompanied by a certified check of the bidder, drawn on a clearing-house bank for the sum of FIFTY THOUSAND DOLLARS (\$50,000.00), payable to the order of the Mayor and City Council of Baltimore.

The Board of Awards reserves the right to reject any or all bids.

EDWARD G. ROST,
Water Engineer.

Approved:
WM. F. BROENING,
President Board of Awards.

Bids close February 2, 1931.

U. S. Engineer Office, Wilmington, N. C. Sealed bids, in duplicate, will be received until 11 A. M., February 2, 1931, and then publicly opened, for furnishing all labor and materials and performing all work for dredging approximately 238,000 cubic yards of sand, mud, etc., in Belhaven Harbor, N. C. Further information upon application.

Bids close February 4, 1931.

Auditorium Chairs

DEPARTMENT OF EDUCATION

OFFICE OF THE

BOARD OF SCHOOL COMMISSIONERS

Madison and Lafayette Avenues

Baltimore, Md., January 21, 1931.

SEALED PROPOSALS, in duplicate, addressed to the Board of Awards, will be received at the office of the City Register, City Hall, Baltimore, Md., until 11 o'clock A. M. WEDNESDAY, FEBRUARY 4, 1931, indorsed as follows:

Proposals for Furnishing and Installing Auditorium Chairs for the Baltimore Polytechnic Institute for the Department of Education.

Specifications for the above may be obtained at the office of the Assistant Superintendent in charge of the Business Division of the Department of Education, 1230 East 20th street, Baltimore, Md.

Each bid must be accompanied by a certified check of the bidder for \$100.00, made payable to the Mayor and City Council of Baltimore, and drawn on a clearing-house bank.

The successful bidder will be required to give bond for the faithful performance of his duties, and in an amount equal to the contract price, and to comply with the City Charter respecting contracts.

The Board of Awards reserves the right to reject any or all bids.

JOSHUA R. JOLLY,
Acting Secretary Board of
School Commissioners.

Approved:
WILLIAM F. BROENING,
President Board of Awards.

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

FOR SALE. Kaolin mine near Augusta, Ga. Virgin mine, wonderful quality, very white soft. Free from grit, shallow overburden. Finest refractory clay, ceramic, tile, china, rubber and paper. Test 3500 F. Near railroad. Has given perfect satisfaction. Terms. For further information address. J. C. Lamar, 405 Leonard Bldg., Augusta, Ga.

MANGANESE DEPOSITS

FOR SALE ONLY—Rich manganese deposits in Ala. near Birmingham. THE MIDVALE MINING & DEVELOPMENT CO.,

W. H. Amerine, Secretary,
Box 1121, Montgomery, Alabama.

TIMBER AND TIMBER LANDS

ACREAGE BARGAINS—We have several desirable tracts; some are well stocked with fast growing pine timber. Many have enough advance growth to pay a good return on the investment above carrying charges during the holding period. Let us select the tract and manage it, taking our remuneration as a percentage of net earnings.

THE JAMES D. LACEY COMPANY,
1409 Barnett Bldg., Jacksonville, Fla.

FARM, FRUIT AND TRUCK LANDS

FLORIDA

FOR SALE

Beautiful complete hundred acre Gulf Coast Island, finely located near good town, railroad, and highway. Rich soil, plenty trees, good shade. Delightful place for winter home. Bargain for quick sale. Address No. 9071, care Manufacturers Record.

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RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

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100 lines 28c a line
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TERMS: For transient advertising cash with order; check, postoffice or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS: No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

FARM, FRUIT AND TRUCK LANDS

TEXAS

LOWER RIO GRANDE Valley orchards and acreage at actual value. Owner's price direct to you. Send for list. ROBERTS REALTY CO., Realtors, McAllen, Tex.

FARMS—2000-acre improved with tenant houses, outbuildings; levee protected; pumping plant; benefit tax paid; gravel road; 6 miles out; easily financed. Plowman & Greenville, Hannibal, Mo.

FARM, FRUIT AND TRUCK LANDS

TEXAS

FOR SALE—Cheap, 4075 acres of good agricultural land in Jasper County. GARLAND SMITH, Jasper, Texas.

BUSINESS OPPORTUNITIES

LONG TERM LOANS, large amounts, made on industrial, mercantile, sawmill properties. THOS. W. GILMER, Attorney, Bay Minette, Alabama.

MANUFACTURERS—Write for our FREE Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. ADAM FISHER MFG. CO., 578 Enright, St. Louis, Mo.

OPPORTUNITY FOR PRACTICAL CANNER—If you have some cash and understand vegetable and fruit canning industry, communicate with the undersigned and learn about something worthwhile. Address No. 9079, care Manufacturers Record.

SPLENDID LOCATION and opening for dairy and stock farm. Party ready and willing, waiting to go in with proper party or will turn over to interested party. P. JOHN HART REALTY CORP., P. O. Arcade, Fort Myers, Fla.

SALVAGE

ANYTHING FROM A SUNKEN BOAT to a waste pile, antiquated stock or non-operating plant. If you own property that needs salvaging, write describing it to No. 9083, care of Manufacturers Record.

RESEARCH, REPORTS, ETC.

DEPARTMENTAL, Statistical, Information-Research-Reports; Legislative, Treasury, Internal Revenue, Consular, Local and Foreign Markets, Labor. Federal Economics Service, 357 Munsey Bldg., Washington, D. C.

INDUSTRIAL SURVEYS

ENGINEERING REPORTS on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

TECHNICAL SERVICE CO.,
Woolworth Building New York City

INDUSTRIES WANTED

WELL-LOCATED Southern town wants industry. Will furnish plant, moving expenses, additional capital and other concessions.

INDUSTRIAL SERVICE CORP.,
Asheville, N. C.

FACTORY SITES

TWO AND ONE-QUARTER MILES railroad frontage industrial sites for sale at Baton Rouge. Southern Land and Investment Company, Baton Rouge, La.

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FREE "PATENT PARTICULARS"
Sterling Buck, over 23 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

PATENTS—Booklet free. Highest references. Best results. Promptness assured. WATSON E. COLEMAN, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

SEYMOUR & BRIGHT, Registered Patent Attorneys. Established 1876. PATENTS, TRADEMARKS, COPYRIGHTS. Prompt and thorough service. Suite 600-4, Barrister Building, Washington, D. C.

PATENTS—TRADEMARKS—COPYRIGHTS Charlotte office convenient to South. PAUL B. EATON, Registered Patent Attorney, 218 Johnston Building, Charlotte, N. C., and 314 McLachlen Building, Washington, D. C.

REPRESENTATIVES WANTED

WE MAKE Water Conditioning Chemicals and desire to communicate with men now active, calling on the power trade or handling boiler room specialties. Work is highly remunerative. Address No. 9080, care of Manufacturers Record, Baltimore.

AGENCIES WANTED

WANTED—A good advertised line of paint on consignment. Can furnish references and rated in Duns. FLORIDA GLASS COMPANY, INC., Lakeland, Florida.

SITUATIONS WANTED

I WOULD LIKE to have position with progressive firm as mill or plant supt., operating work or construction work. Would also consider sawing, either band or circular, mill foreman or millwright building or operating. Also operating with any large company with machinery. Address No. 9076, care Manufacturers Record, Baltimore.

CONSTRUCTION ENGINEER seeks engagement. Industrial or real estate development. Thoroughly experienced in costs, subcontracts and construction of hotels, residential and industrial buildings and work incidental thereto. Well recommended and satisfaction guaranteed. Contract or salary. Address No. 9084, care of Manufacturers Record, Baltimore, Md.

A YOUNG MAN with Sales, Production, Finance and General Managerial experience, especially in reorganizing and working out unsatisfactory operations, is in position to undertake either full or part time assignments of comparatively short duration. Also handle commercial or private investigations of businesses, properties or individuals. Highest references, charter and ability. Confidential matters by interview if desired upon guaranty of expenses. Prefer to work in southern states. Address No. 9082, care of Manufacturers Record.

SITUATIONS WANTED

FINANCIAL EXECUTIVE, age 34, with years of administrative, credit and sales experience in Southern field, desires to connect with aggressive company. Past record will stand thorough investigation. Edwin L. Emery, 306 Evesham Ave., Baltimore, Md.

SUPERINTENDENT of building construction. Eight years building and engineering experience. Strictly sober, progressive and capable. Can hold down cost and get production. Address No. 9081, care of Manufacturers Record, Baltimore, Md.

MEN WANTED

IF YOU ARE OPEN to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty-one years. Send only name and address for details.

R. W. BIXBY, INC.,
103 Downtown Bldg. Buffalo, New York

MACHINERY AND SUPPLIES

FOR SALE—600 Prs. Handy Rail Clamps for 16 to 30 lbs. rails. 50c pair, any size. PERSINGER SUPPLY CO.,
Williamson, W. Va.

ELECTRICAL MACHINERY
For Sale—Motors and Generators, A.C. and D.C. New and Rebuilt. Attractive prices. Large Stock. Write for our Price List. V. M. NUSSBAUM & CO.,
Fort Wayne, Ind.

TWENTY NEW 10-H.P., 220 volt, 60 cycle, three-phase, 1750 speed General Electric 40 degree alternating motors, ball bearing, double shaft; motor only \$55.00. Twelve 20 H.P., 3450 speed, \$75.00. Several Needham, 6x6 and 6x9, positive blowers, direct connected to alternating current motors. Also large mercury arc rectifiers. Electrical Surplus Co., 1911 Chicago Ave., Chicago, Ill.



RESALE DEPARTMENT

MACHINERY

EQUIPMENT

SUPPLIES

OIL ENGINE GENERATING SET
FOR SALE

1—120 HP Twin Cylinder Giant Crude Oil Engine, direct connected to 2300 volt A.C. Allis-Chalmers Generator. The above outfit is in excellent condition. Price \$3750.00 F.O.B. Cars Raleigh, N. C. Write:

DILLON SUPPLY CO.
Raleigh North Carolina

HYATT ROLLER BEARINGS
FOR SALE

1—Lot of 800 New Hyatt Roller Bearings, inside diameter 2 1/2" and 3", length 7", for mining cars, shafting, etc. Priced at \$1.00 each, worth five times as much. F. O. B. Anniston, Ala.

ANNISTON SCRAP MATERIAL CO.
P. O. Box 33 Anniston, Ala.

WANTED—Buy for cash;

4 miles twenty-four gauge Industrial Track, 100 forty-eight cubic foot batch boxes. 50 batch cars. Must be first class condition.

ALAMO IRON WORKS
San Antonio, Texas.

If you want to get
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Butt Strap, High Pressure, H. R. T. Boilers.

6—150 H.P. 150 lbs. steam pressure, Atlanta, Ga.
3—150 H.P. 150 lbs. steam pressure, Augusta, Ga.
3—150 H.P. 150 lbs. steam pressure, Nashville, Tenn.
6—150 H.P. 140 lbs. steam pressure, River Falls, Ala.
6—150 H.P. 130 lbs. steam pressure, Lake, Miss.
3—Springfield water tube boilers, 242 H.P. each, 175 lbs. steam pressure, Nashville, Tenn.
These boilers must be moved immediately. We guarantee insurance at above pressure. Write or wire for details.

W. M. SMITH & CO.
Box 1709 Birmingham, Ala.

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Nordberg-Carels Diesel Engine—No. 30173. Type 3VE. 330 B.H.P. Speed 225. 3 Cylinder. General Electric A.C. Generator—No. 2540617. Type AT1. Amps. 675. Speed 225. P.F. .8. Kw. 225. 60 Cycles. 281 kv-a. 240 volts.

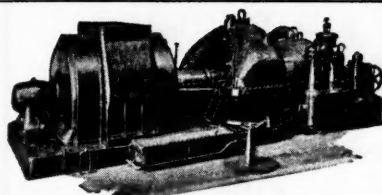
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Power Bulletin 415

Showing hundreds of Rare Bargains in Oil Engine, Steam & Electric Power Equipment Now ready. You should have it; it's free for the asking.

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Rails, Contractors' Equipment, Machinery, Steel Piling, Tanks, Pipe, etc.



10,000 KVA Turbo typical of 4 units recently delivered and similar to the following.

PRACTICALLY NEW 100% INTERNAL EXCELLENCE WESTINGHOUSE CONDENSING TURBO UNITS COMPLETE—INSTANT SHIPMENT

1—15,000 KW CW-218 Frame—1800 RPM
1—10,000 KVA CW-112 Frame—1800 RPM
1—7,500 KW CW-78 Frame—1800 RPM
1—5,500 KVA CW-76 Frame—3600 RPM
1—4,000 KVA CW-76 Frame—3600 RPM
2—1,700 KVA CW-26 Frame—3600 RPM
1—1,500 KVA CW-16 Frame—3600 RPM
(3 phase, 60 cycle, standard voltages)

A.S.M.E. CODE DESIGN BOILERS 200-225 lbs.

2—1500 H.P. Cross Drum B & W
2—2650 HP Ladd Bent Tube
6—637 HP Stirling Plant, modern stokers, auxiliaries

3—504 HP B & W Vertical Steel headers, et al.

CONDENSERS MOTOR GENERATOR SETS

Verification and proof of new equivalent condition easily reached on personal inspection
50% to 200% saving on investment

Send us list of your requirements—or what you have for sale

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RESALE DEPARTMENT

MACHINERY

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200 KVA, 220 volt, 3 phase, 60 cycle, Burke generator direct connected to Filler-Stowell Uniflow engine.

AIR COMPRESSOR

676 cubic feet capacity Ingersoll-Rand Imperial type 10xCB, size 15" and 9 1/4" x 12", 2 stage air compressor, short belt idler drive with 100 H.P. synchronous motor.

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38"x60"x32' McCabe 2-in-1 lathe, belt drive.
28"x30' Harrington engine lathe, belt drive.
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2000 lb. Chambersburg double frame steam hammer.
1100 lb. Niles, Bement Pond single frame steam hammer.
No. 1 Nazel belt driven hammer, capacity 2"x2".

All types of machine shop and structural shop equipment.

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Complete Machinery, Equipment, Supplies

used in the manufacture of
Iron Beds and Bed Springs

also office fixtures. Bids received up to Feb. 3rd, 1931.
For particulars wire, or write

GEO. E. HOLT, JR., TRUSTEE

Box 344, MEBANE, N. C.
Mebane Iron Bed Co., Bankrupt

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You may replace certain machinery in your plant this year. Let us help you sell the equipment you will no longer need by advertising it in

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Manufacturers Record

Baltimore, Md.

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Rethreaded, reconditioned, guaranteed, suitable for all practical purposes, furnished with new threads and couplings, 400,000 feet in all sizes from 24" to 1/4".

Also large stock of spiral pipe, sizes 7", 10", 12", 14", 20", and 24".

Large stock of valves and fittings, screwed and flanged. Can make attractive prices.

MARINE METAL & SUPPLY CO.

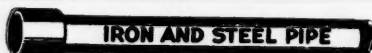
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Second Hand and New Wrought Steel **PIPE** Overhauled New Threads and Couplings

Also Cut to Sketch

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Large quantity new and used Government material in excellent condition, ready for immediate shipment. Low prices.

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148 N. 3rd St. PHILADELPHIA

Just Received

100,000 FEET 1-INCH
USED BLACK PIPE
IN 20-FOOT LENGTHS

Good Threads and Couplings; first-class condition

MARYLAND PIPE AND STEEL CO.
Scott and Ostend Sts., Baltimore, Md.

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SECOND HAND
Overhauled and Tested
New Threads and Couplings
Established 1904

Albert & Davidson
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Used and Rebuilt Engine Generator Sets, Turbo Generator Sets, Motors, Rotary Converters, Generators, Motor Generator Sets, Engines, Boilers, Steam and Electric Machinery of all kinds, also Machine Tools. Send for our new machinery list. Yours for the asking. Established 50 years.

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ALBERT PIPE SUPPLY CO., INC.

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ALL SIZES CUT TO SKETCH
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BERRY & NORTH 13th STS.
BROOKLYN, N.Y.

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TWO COMPLETE 66 and 33 Kv. SUBSTATIONS

Full description and price on request.

A complete stock of transformers 1 to 1000 kva. Modern methods make our repair service second to none. Special service on breakdown jobs.

All transformers guaranteed for one year.
Write for Catalog. No. 124-E.

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- 1—50 H.P. Farquhar Portable Locomotive Type Boiler mounted on skids, built for 150 lbs. working pressure. Complete. F.O.B. Cars, Cooler Siding, S. C.
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- 1—Complete 30 M per day Circular Saw Mill for Sawing Hardwood, Carriage, mandrel, twin feed, edger, Butt saw, trimmer, line shafting, pulleys, conveyors, live rolls, Rollers, Engine, Electric light plant and Machine and Blacksmith Shop in first class running condition on Cars.
- 20—10 in. "I" Beams—35 lbs. per ft., 21 to 24 ft. long. F.O.B. Savannah, Ga. Each—\$10.00.
- 40,000 pounds of 9/16x5 1/2 R. R. Spikes, 1 1/2c per pound.
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P&H Model 400 Dragline, 3/4 yard, in good shape, ready to go. Located at Chicago plant.

Northwest Model 105 1 yard Crane. Fully reconditioned. At Hoboken plant.

P&H Model 600 1 yard Shovel. Thoroughly overhauled and in very good operating condition. At Hoboken plant.

Marion No. 32 1 Yard Steam Shovel on full crawlers. Ready for immediate delivery. An exceptional bargain, located at Hoboken plant.

P&H Model 400 3/4 yard Clamshell, 35 foot boom. Has been very carefully reconditioned. At Hoboken plant.

Erie Gas-Air—1 yard Shovel or Crane. In good working order. Will sell cheap. At Chicago plant.

Liberal Terms—Large Stock to Pick From—Write or Wire At Our Expense

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- P. & H. Model 206, 3/4-yd. Dragline.
 - Byars, 10-ton Caterpillar Crane, 3/4-yd. Clam.
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 - 10—50-ton capy. All Steel Twin Hopper Cars.
 - 75-ton, 20x26" 6-Driver Switcher, A. S. M. E.
 - 50-ton, 18x24" 4-Driver Switcher.
 - 92-ton, 20 1/4x28" Mikado (2-3-3) BUILT 1922.
 - 35-ton, 18x20" 4-Driver Sad. Tank.
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- WE HAVE OVER FORTY LOCOMOTIVES IN STOCK. REBUILT AND READY ALL TYPES. 10 TO 100 TONS

Southern Iron & Equipment Co.,
Atlanta, Ga.

STEEL SHEET PILING

New and Used

SOLD, BOUGHT, REPURCHASED

Stocks at Principal Points throughout the Country for prompt shipment. We buy Piling located anywhere.

HYMAN-MICHAELS COMPANY

St. Louis CHICAGO New York
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GASOLINE LOCOMOTIVES FOR SALE—At Half Price

Three new 8 ton Whitcomb gasoline locomotives, narrow gauge, can be changed to standard gauge. These locomotives are new, unused and are in absolutely perfect condition.

W. M. SMITH & CO.
Birmingham, Alabama

DRAW BRIDGE FOR SALE CHEAP

Superstructure and machinery for a 238 ft. complete Highway Swing Span for sale at Bargain Price. Weight 220,000 lbs., 20 foot roadway, strong enough for logging train. Condition perfect, location Southeast.

WANNAMAKER & WELLS, INC.
Orangeburg, S. C.

Shovels or Cranes

FOR SALE

- 1—Factory rebuilt Lima 1 1/4 cu. yd. capacity. This machine can be equipped with either shovel, clamshell, dragline or drag shovel attachments. Very reasonably priced. Carries new machine guarantee. Located at New York.

- 1—Gas-Air Erie shovel 1 yd. capacity, A-1 condition. Ready for service. Located Richmond, Va.

Marion No. 32 Electric Shovel, 1 1/4 cu. yd.; 50 hp. G. E. Motor; 3 phase, 60 cycle, 440 v. Splendid condition. Located New York City.

Complete Shovel Attachment for Type "O" Thew. Also, attachment for Type B and B-2 Eries located in New Jersey. Decided bargains.

P & H 1 1/4 yd. gas shovel. Excellent condition, very attractive price. Located South Kearny, N. J.

- 1—Linn Tractor, 6-yd. capacity, with Waukesha Motor. Machine in very good condition. Priced to sell quickly. Located New York State.

We have both Steam and Gasoline Excavators ranging from 1/2 to 1 1/2 cu. yd. capacity in various parts of the country that will be sold at extremely low prices or leased with leased payments made applying on purchase price.

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Commercial Trust Bldg. Philadelphia

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Tell our readers about it through
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it may just suit the needs of someone.

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OVERHEAD CRANE FOR SALE

Slightly used "Milwaukee" 10 ton 38'-0" span, 3 motor full roller bearing, low headroom crane.

PRICE \$3500.00

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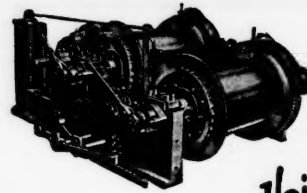
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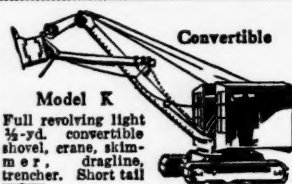
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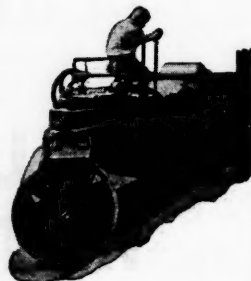
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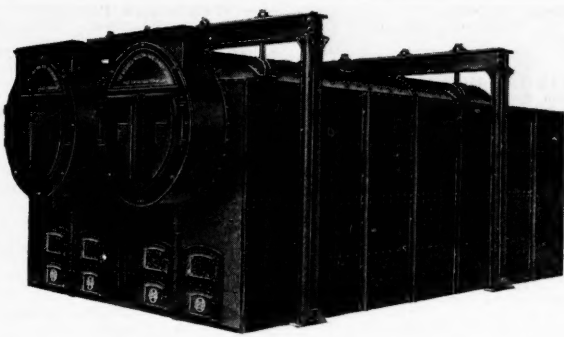
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Deemer Steel Casting Co., New Castle, Del.
Lunkenheimer Co., Cincinnati, Ohio.
Mountain State Steel Foundries, Parkersburg, W. Va.

CEILING (Metal.)

Milcor Steel Co., Milwaukee, Wis.

CEMENT (High Temperature.)

Harbison-Walker Refractories Co., Pittsburg, North American Refractories Co., Cleveland, Ohio.

—(Portland.)

Alpha Portland Cement Corp., Birmingham, Ala.
Louisville Cement Co., Louisville, Ky.
Portland Cement Assn., Chicago, Ill.

—Guns.

Cement-Gun Co., Inc., Allentown, Pa.

—Machinery.

Traylor Engr. & Mfg. Co., Allentown, Pa.

CHAIN BLOCKS (See Blocks, Chain.)**CHAINS (Dredge, Quarry, Steam Shovel.)**

Knorrville Iron Co., Knoxville, Tenn.
Woodhouse Chain Works, Trenton, N. J.

—(High Speed Roller.)

Diamond Chain & Mfg. Co., Indianapolis.

—(Silent Drive.)

Diamond Chain & Mfg. Co., Indianapolis.

—(Sprocket.)

Chain Belt Co., Milwaukee, Wis.

—(Welded.)

Woodhouse Chain Works, Trenton, N. J.

CHAIRS (Opera and Theatre.)

Andrews Co., A. H., Chicago, Ill.

CHEMICALS.

Davison Chemical Co., Baltimore, Md.
Grasselli Chemical Co., Inc., Birmingham.

CHEMISTS, CHEMICAL ENGINEERS (Analytical.)

Barrow-Ages Laboratories, Memphis, Tenn.
Flood & Co., Walter H., Chicago, Ill.
Froehling & Robertson, Inc., Richmond, Va.
Hunt Co., Robert W., Chicago, Ill.
Meigs, Bassett & Slaughter, Phila., Pa.
Pittsburgh Testing Laboratories, Pittsburgh, Pa.
Southwestern Laboratories, Fort Worth, Tex.
Stillman & Van Sicken, New York.
Wiley & Co., Inc., Baltimore, Md.

—(Consulting, Paper Industry.)

Froehling & Robertson, Inc., Richmond, Va.

CHIMNEYS (Concrete.)

Rust Engineering Co., Birmingham, Ala.

—(Radial Brick.)

Rust Engineering Co., Birmingham, Ala.

CHLORIDE ACCUMULATOR.

Electric Storage Battery Co., Phila., Pa.

CIRCUIT BREAKERS.

I. T. E. Circuit Breaker Co., Phila., Pa.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CLOCKS (For all purposes.)

Kaiser Klock Co., L. E., Baltimore, Md.

—(Watchman's Portable.)

Davis-Paradis Watchman's Clock Corp., New York, N. Y.
Kaiser Klock Co., L. E., Baltimore, Md.

CLOTH (Wire.)

Newark Wire Cloth Co., Newark, N. J.

CLUTCHES (Friction.)

Caldwell Co., Inc., W. E., Louisville, Ky.
Wood's Sons Co., T. B., Chambersburg, Pa.

COAL (Bituminous.)

Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—and Ash-Handling Mch.

Chain Belt Co., Milwaukee, Wis.
Hayward Co., The, New York, N. Y.
Industrial Brownhoist Corp., Cleveland, O.
Northwest Engineering Co., Chicago.
Webster & Weller Mfg. Co., Chicago.

—Tipples.

American Bridge Co., New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va.

COATINGS (Protective.)

Headley Emulsified Products Co., Philadelphia, Pa.

COCKS (Service.)

Merco Nordstrom Valve Co., San Francisco, Calif.

COKE.

Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

COLUMNS (Cast Iron.)

U. S. Pipe & Fdry. Co., Burlington, N. J.

COMPRESSORS (Gasoline Extr.)

Sullivan Machinery Co., Chicago, Ill.

CONCRETE (Block Machinery.)

Blystone Mfg. Co., Cambridge Springs, Pa.

—Construction (Reinforced.)

Cement-Gun Co., Inc., Allentown, Pa.
Cement Gun Construction Co., Chicago.
Rust Engineering Co., Birmingham, Ala.

—Floor Slabs.

Federal-American Cement Tile Co., Chicago.

—Information Only.

Portland Cement Assn., Chicago, Ill.

—Mixers.

Blystone Mfg. Co., Cambridge Springs, Pa.
Chain Belt Co., Milwaukee, Wis.
Dunning & Boschert Press Co., Inc., Syracuse, N. Y.
Equipment Corp. of America, Chicago, Ill.
Jaeger Machine Co., Columbus, Ohio.

—Pipe Machinery (See Pipe Machinery, Concrete.)

—Placing Equipment.
National Equipment Corp. (Insley Division), Milwaukee, Wis.

—Roofing Tile.

Federal-American Cement Tile Co., Chicago.

CONDENSERS.

Ingersoll-Rand Co., New York, N. Y.
Manitowoc Iron Works Co., Manitowish, Mich.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

CONDUITS (Electric, Interior, Steel.)

Western Electric Co., New York, N. Y.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

CONTRACTORS (Bridge.)

Kansas City Bridge Co., Kansas City, Mo.
Snare Corp., Frederick, New York.

—(Drainage and Dredging.)

Arundel Corp., The, Baltimore, Md.
Atlantic Gulf and Pacific Co., New York.

—(Electrical.)

Virginia Engineering Co., Inc., Newport News, Va.
Walker Electrical Co., Atlanta, Ga.
Warner Service Co., Knoxville, Tenn.
Webb Electric Co., Anderson, S. C.

—(Foundations and Dams.)

Snare Corp., Frederick, New York, N. Y.

—(General.)

Angle-Blackford Co., Greensboro, N. C.
Blair, Algernon, Montgomery, Ala.
Burkes, Inc., J. V. & B. T., New Orleans, La.
Charleston Constructors, Inc., Charleston, S. C.
Cornell Young Co., Inc., Macon, Ga.
Cowper Co., Inc., John W., Richmond, Va.
Flake-Carter Constr. Co., Greenville, S. C.
Gridley Constr. Co., Lee A., Knoxville, Tenn.
Saville, Inc., Allen J., Richmond, Va.

Smallman Construction Co., Birmingham.
Snare Corp., Frederick, New York, N. Y.
Thompson & Bros., T. C., Charlotte, N. C.
Tucker & Laxton, Charlotte, N. C.
White Engineering Corp., J. G., New York.

—(Industrial Buildings.)

Angle-Blackford Co., Greensboro, N. C.
Blair, Algernon, Montgomery, Ala.
Cowper Co., Inc., John W., Richmond, Va.
Flake-Carter Constr. Co., Greenville, S. C.
Smallman Construction Co., Birmingham.
Snare Corp., Frederick, New York, N. Y.
Thompson & Bros., T. C., Charlotte, N. C.
Tucker & Laxton, Charlotte, N. C.
Virginia Engineering Co., Inc., Newport News, Va.
White Engineering Corp., J. G., New York.

—Mill Village.

Hernbuckle Contracting Co., Atlanta, Ga.

—(Plastering.)

Jennings & Co., Floyd, Atlanta, Ga.

—(Power Piping.)

Foe Piping & Heating Co., Greenville, S. C.

—(Power Plants.)

Snare Corp., Frederick, New York, N. Y.
Virginia Engineering Co., Inc., Newport News, Va.

—(Railroad.)

Cornell-Young Co., Inc., Macon, Ga.

—(Reinforced Concrete.)

Blair, Algernon, Montgomery, Ala.
Cement Gun Construction Co., Chicago.
Gunite Conc. & Constr. Co., Kansas City.
Tucker & Laxton, Charlotte, N. C.

—(Road and Street Paving.)

Flake-Carter Constr. Co., Greenville, S. C.
Gridley Constr. Co., Lee A., Knoxville, Tenn.
Hornbuckle Contracting Co., Atlanta, Ga.
McOrary Co., J. B., Atlanta, Ga.
Virginia Engineering Co., Inc., Newport News, Va.

—(Sewerage and Waterworks.)

Gridley Constr. Co., Lee A., Knoxville, Tenn.

Hardaway Contracting Co., Columbus, Ga.
Hornbuckle Contracting Co., Atlanta, Ga.
McOrary Co., The J. B., Atlanta, Ga.
Snare Corp., Frederick, New York, N. Y.
Tucker & Laxton, Charlotte, N. C.
Virginia Engineering Co., Inc., Newport News, Va.

—(Sprinkler System.)

Foe Piping & Heating Co., Greenville, S. C.

—(Water-Works.)

Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

—Machinery and Supplies.

Bay City Shovels, Inc., Bay City, Mich.
W-K-M Co., Inc., Houston, Texas.

—Machinery and Supplies.

Adams Mch. Co., T. G., Savannah, Ga.
Lima Excavator Sales Agency, Lima, Ohio.
Marine Metal & Supply Co., New York.
Phillips, Inc., Chester A., Chicago.
Samlor Mch. & Equip. Co., Baltimore.

CONTRACT WORK WANTED.

(See following classifications.)

Beller and Tank Work.**Castings.****Forgings.****Foundries and Machine Shops.****Machinery (Special.)****Ornamental Iron Work.****Patterns.****Sheet Metal Work.****Structural Steel and Iron.****Welding Plants.****CONVEYING AND ELEVATING****MACHINERY.**

Barber-Greene Co., Aurora, Ill.

Chain Belt Co., Milwaukee, Wis.

Universal Crusher Co., Cedar Rapids, Ia.

Webster & Weller Mfg. Co., Chicago.

CONVEYORS (Portable, Power-Driven.)

Clark Tractor Co., Battle Creek, Mich.

CORNER BEAD.

Mileor Steel Company, Milwaukee, Wis.

COST SERVICE.

Le Baron, E. T., Jacksonville, Fla.

COTTON GIN MACHINERY.

Continental Gin Co., Birmingham, Ala.

COUNTING APPARATUS.

Veeder-Root, Inc., Hartford, Conn.

COUPLINGS.

Goldens Fdy. & Mch. Co., Columbus, Ga.

—(Flexible.)

Diamond Chain & Mfg. Co., Indianapolis, Ind.

—(Shaft.)

Wood's Sons Co., T. B., Chambersburg, Pa.

CRANES

Industrial Brownhoist Corp., Cleveland, O.
National Equipment Co. (Insley, Koeberling, Parsons), Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Cantilever, Gantry.)

Bedford Foundry & Machine Co., Bedford, Ind.

—(Crawler.)

Harnischfeger Corp., Milwaukee, Wis.
Industrial Brownhoist Corp., Cleveland, O.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Crawling Tractor.)

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Electric Traveling.)

Bedford Foundry & Machine Co., Bedford, Ind.
Harnischfeger Corp., Milwaukee, Wis.
Milwaukee Elec. Crane & Hoist Corp., Milwaukee, Wis.

—(Full Circle Steam and Electric.)

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Gasoline.)

Buckeye Traction Ditcher Co., Findlay, Ohio.

Harnischfeger Corp., Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Locomotive.)

Bucyrus-Erie Co., Erie, Penna.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

—(Material Handling.)

Bay City Shovels, Inc., Bay City, Mich.
Industrial Brownhoist Corp., Cleveland, O.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.
Universal Crane Co., Lorain, Ohio.

—(Traveling Hand Power.)

International Derrick & Equipment Co., Columbus, Ohio.
Wright Mfg. Co., Lisbon, Ohio.

CRAWLERS (Tractor.)

Trackson Co., Milwaukee, Wis.

CREOSOTED MATERIALS.

Amer. Creosote Wks., Inc., New Orleans.
Delaware Wood Preserving Co., Phila.
Savannah Creosoting Co., Savannah, Ga.

CREOSOTED TIMBER.

Ayer & Lord Tie Co., Chicago, Ill.
Brown Wood Preserving Co., Louisville, Ky.

CREOSOTE OIL.

Amer. Creosote Wks., Inc., New Orleans.
Ayer & Lord Tie Co., Inc., Chicago.

CREOSOTING (Wood Materials.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Brown Wood Preserving Co., Louisville, Ky.
Carolina Wood Preserving Co., Charleston, S. C.

Delaware Wood Preserving Co., Phila.
Eppinger & Russell Co., New York, N. Y.
Gulf States Creos. Co., Hattiesburg, Miss.
Savannah Creosoting Co., Savannah, Ga.
Wales Wood-Preserving Co., Norfolk, Va.

CROSS-ARMS (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Savannah Creosoting Co., Savannah, Ga.

—(Zinc Meta Arsenite Treated.)

Curtin-Howe Corp., New York, N. Y.

CROSS-TIES (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Ayer & Lord Tie Co., Inc., Chicago.
Carolina Wood Preserving Co., Charleston, S. C.

Eppinger & Russell Co., New York, N. Y.
Savannah Creosoting Co., Savannah, Ga.

—(Zinc Meta Arsenite Treated.)

Curtin-Howe Corp., New York, N. Y.

CRUSHED STONE (Road Concrete and Ballast.)

American Limestone Co., Knoxville, Tenn.
Borley & Co., W. W., Roanoke, Va.

CRUSHERS (Coal and Coke.)

Fuller Lehigh Co., Fullerton, Pa.

—(Rock.)

Universal Crusher Co., Cedar Rapids, Ia.

CRUSHING and Pulverizing Machinery.

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Day Pulverizer Co., Knoxville, Tenn.
Fuller Lehigh Co., Fullerton, Pa.

Raymond Bros. Impact Pulverizer Co., Chicago, Ill.
 Traylor Engr. & Mfg. Co., Allentown, Pa.
 Universal Crusher Co., Cedar Rapids, Ia.
 W-K-M Co., Inc., Houston, Texas.

CULVERT PIPE (Cast Iron.)
 Amer. Cast Iron Pipe Co., Birmingham.
 Cast Iron Pipe Research Assn., Chicago.
 U. S. Pipe & Foundry Co., Burlington, N.J.

—(Corrugated Metal.)
 American Sheet & Tin Plate Co., Pittsburgh, Pa.
 Armo-Culvert Mfrs. Assn., Middletown, O.
 Dixie Culvert & Metal Co., Atlanta, Ga.
 Dixie Culvert Mfg. Co., Little Rock, Ark.
 Louisiana Corr. Culvert Co., Baton Rouge, La.
 Tenn. Metal Culvert Co., Nashville, Tenn.
 Western Metal Mfg. Co., Houston, Texas.

CURB PROTECTORS. (Steel Bar.)
 Truscon Steel Co., Youngstown, Ohio.

CUTTERS (Wire Rope.)
 Leach & Sons Rope Co., A., St. Louis.

CYLINDERS (Compressed Air, Gas.)
 National Tube Co., Pittsburgh, Pa.

DAMP-PROOFING.
 Headley Emulsified Products Co., Philadelphia, Pa.

DERRICKS (Oil and Water Well.)
 International Derrick & Equipment Co., Columbus, Ohio.

DERRICKS and Derrick Fittings.
 Clyde Iron Works Sales Co., Duluth, Minn.
 Lidgerwood Mfg. Co., Elizabeth, N. J.
 Sargen Derrick Co., Chicago, Ill.

DESKS (School.)
 Andrews Co., A. H., Chicago, Ill.

DITCHING MACHINERY.
 Barber-Greene Co., Aurora, Ill.
 Bay City Shovels, Inc., Bay City, Mich.
 Buckeye Traction Ditcher Co., Findlay, Ohio.
 Harnischfeger Corp., Milwaukee, Wis.
 Hayward Co., The, New York, N. Y.
 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Owen Bucket Co., The, Cleveland, O.

DOORS (Bronze.)
 Michaels Art Bronze Co., Covington, Ky.

—(Fire.)
 Merchant & Evans Co., Philadelphia, Pa.
 Richards-Wilcox Mfg. Co., Aurora, Ill.

—(Fireproof, Air Chamber.)
 Wilson Corp., The J. G., New York.

—(Kalamazoo.)
 Moschel-Edwards Corr. Co., Cincinnati.
—(Rolling, Steel and Wood.)
 Kinner Mfg. Co., The, Columbus, Ohio.
 Moschel-Edwards Corr. Co., Cincinnati.
 Wilson Corp., The J. G., New York.

—(Steel.)
 Truscon Steel Co., Youngstown, Ohio.

—(Tubular Spring.)
 Bayley Co., Wm., Springfield, O.

—(Vault.)
 York Safe & Lock Co., York, Penna.

DRAFTSMEN'S SUPPLIES.
 Weber Co., Inc., F., Philadelphia, Pa.

DRAGLINE EXCAVATORS.
 Bucyrus-Erie Co., Erie, Penna.
 Harnischfeger Corp., Milwaukee, Wis.
 Monaghan Mfg. Corp., Chicago, Ill.
 National Equipment Corp. (Koeberling, Inc.), Milwaukee, Wis.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Sauerman Bros., Chicago, Ill.
 Thew Shovel Co., The, Lorain, Ohio.
 Universal Power Shovel Co., Milwaukee, Wis.

—(Walking.)
 Monaghan Mfg. Corp., Chicago, Ill.

DREDGES (Dipper, Elevator, Hydraulic.)
 Bay City Shovels, Inc., Bay City, Mich.
 Bucyrus-Erie Co., Erie, Pa.
 Elliott Machine Corp., Baltimore, Md.

DREDGING (River and Harbor Improvement.)
 Arundel Corp., The, Baltimore, Md.
 Atlantic Gulf and Pacific Co., New York.
—Machinery.
 Elliott Machine Corp., Baltimore, Md.
 Hayward Co., The, New York.

DRILLING CONTRACTORS.
 Kennedy-Riegger Drilling Co., New York City.
 Mott Core Drilling Co., Huntington, W. Va.
 Myers & Sons, J. L., Decatur, Texas.
 Pennsylvania Drilling Co., Pittsburgh, Pa.
 Southern Drilling Co., Salisbury, Va.
 Sprague & Henwood, Inc., Scranton, Pa.

DRILLS (Oil and Artesian Well)
 International Derrick & Equipment Co., Columbus, Ohio.
 Virginia Machinery & Well Co., Inc., Richmond, Va.

—Hand
 Gardner-Denver Co., Quincy, Ill.

—(Electric.)
 Gardner-Denver Co., Quincy, Ill.
 Sullivan Mch. Co., Chicago.

—(Pneumatic.)
 Gardner-Denver Co., Quincy, Ill.
 Ingersoll-Rand Co., New York, N. Y.
 Sullivan Machinery Co., Chicago, Ill.

DRINKING FOUNTAINS.
 Rundle-Spence Mfg. Co., Milwaukee, Wis.

DROP-FORGING MACHINERY.
 Bliss Co., E. W., Brooklyn, N. Y.

DRYERS (Gravel and Sand.)
 Ripley Fdy. & Mch. Co., Ripley, Ohio.

DRY KILNS and Equipment.
 Moore Dry Kiln Co., Jacksonville, Fla.

DRYING MACHINERY.
 American Process Co., New York, N. Y.

DUMP TRUCK BODIES and HOISTS.
 Easton Car & Construction Co., Easton, Pa.

DUST-PROOFING (Concrete.)
 Sonneborn Sons, Inc., L., New York.

DYESTUFFS.
 Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

DYNAMITE (Industrial and Agricultural.)
 Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

ECONOMIZERS (Fuel.)
 Babcock & Wilcox Co., New York.

ELECTRICAL Instruments and Supplies.
 Adam Electric Co., Frank, St. Louis.
 General Electric Co., Schenectady, N. Y.
 Western Electric Co., New York City.

—Machinery (Generators, Motors, etc., New.)
 Allis-Chalmers Mfg. Co., Milwaukee, Wis.
 Century Electric Co., St. Louis, Mo.
 Fairbanks, Morse & Co., Chicago, Ill.
 General Electric Co., Schenectady, N. Y.
 Rockford Power Machy. Co., Rockford, Ill.
 Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.

—Machinery (Generators, Motors, etc., Used.)
 Delta Equipment Co., Philadelphia, Pa.
 Electric Service Co., Cincinnati, Ohio.
 General Electric Co., Schenectady, N. Y.
 Gregory Electric Co., Chicago.
 Nussbaum & Co., V. M., Ft. Wayne, Ind.
 O'Brien Machinery Co., The, Phila., Pa.
 Randle Machinery Co., The, Cincinnati, O.
 Rockford Power Machy. Co., Rockford, Ill.

—Machinery Repairing (Motors, Generators, etc.)
 Electric Service Co., Cincinnati, Ohio.
 Gregory Electric Co., Chicago.

ELECTRIC LIGHTING.
 General Electric Vapor Lamp Co., Hoboken, N. J.

ELECTRIC SHOVELS (See Shovels.)

ELEVATOR Cables.
 Leach & Sons Rope Co., A., St. Louis.

ELEVATORS (Electric.)
 American Elevator & Machine Co., Inc., Louisville, Ky.
 Millner Co., St. Louis, Mo.

—(Hand and Belt Power.)
 American Elevator & Machine Co., Inc., Louisville, Ky.
 Millner Co., St. Louis, Mo.

—(Hydraulic.)
 American Elevator & Machine Co., Inc., Louisville, Ky.

ENGINEERS (Airports.)
 International Derrick & Equipment Co., Columbus, Ohio.
 MacElwhee & Crandall, Inc., Cambridge, Mass.
 Shaw Co., Russell B., St. Louis, Mo.

—(Appraisal.)
 Battey & Kipp, Inc., Chicago, Ill.
 Ford, Bacon & Davis, Inc., New York.
 Lockwood Greene Engrs., Inc., New York.
 Main, Inc., Chas. T., Boston, Mass.
 Sanderson & Porter, New York, N. Y.
 Wadleigh & Bailey, Washington, D. C.
 White Engineering Corp., J. G., New York.

—(Aviation.)
 Shaw Co., Russell B., St. Louis, Mo.

—(Bridge.)
 Atlantic Bridge Co., Greensboro, N. C.
 Billingsley, James W., New Orleans, La.
 Fay, Spofford & Thorndike, Boston, Mass.
 Freeland, Roberts & Co., Nashville, Tenn.
 Gardner & Howe, Memphis, Tenn.
 Greiner & Co., J. E., Baltimore, Md.
 Hardaway Contracting Co., Columbus, Ga.
 Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
 Howerton Engineering Co., Asheville, N. C.
 Southern Erectors, Inc., Tampa, Fla.
 Steel & Leiby, Knoxville, Tenn.
 Turner, C. A., P., Minneapolis, Minn.
 Virginia Bridge & Iron Co., Roanoke, Va.
 Wheeler, Walter H., Minneapolis, Minn.
 Whitman, Requaardt & Smith, Balto., Md.

—(Chemical.)
 Barrow-Agee Laboratories, Memphis, Tenn.
 Dow & Co., Walter H., Chicago, Ill.
 Pittsburgh Testing Laboratories, Pittsburgh, Pa.
 Southern Products Corp., New Orleans.

—(Civil.)
 Airmap Corp. of Amer., Brooklyn, N. Y.
 Battey & Kipp, Inc., Chicago, Ill.
 Charlton & Davis, Ft. Lauderdale, Fla.
 Fuller & McClintock, New York, N. Y.
 Gardner & Howe, Memphis, Tenn.
 Greiner & Co., J. E., Baltimore, Md.
 Harub Engr. Co., C. N., Nashville, Tenn.
 Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
 Hills Co., George B., Jacksonville, Fla.
 MacElwhee & Crandall, Inc., Cambridge, Mass.
 Main, Inc., Chas. T., Boston, Mass.
 Spoon & Lewis, Greensboro, N. C.
 Steel & Leiby, Knoxville, Tenn.
 White Engineering Corp., J. G., New York.
 Whitman, Requaardt & Smith, Balto., Md.

—(Consulting.)
 Airmap Corp. of Amer., Brooklyn, N. Y.
 Charlton & Davis, Ft. Lauderdale, Fla.
 Converse & Co., J. B., Mobile, Ala.
 Cramer, Robert, Milwaukee, Wis.
 Engineering Service Corp., Houston, Tex.
 Harza Engineering Co., Chicago.
 Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
 Lockwood Greene Engrs., Inc., New York.
 Main, Inc., Chas. T., Boston, Mass.
 Smith, Elroy G., Augusta, Ga.
 Stillman & Van Sice, New York, N. Y.
 Wadleigh & Bailey, Washington, D. C.
 White Engineering Corp., J. G., New York.
 Whitman, Requaardt & Smith, Balto., Md.
 Wiedeman & Singleton, Inc., Atlanta, Ga.

—(Dams.)
 Alpaugh & Sons, Chas. W., Manassas, Va.
 Battey & Kipp, Inc., Chicago, Ill.
 Byllesby Engineering and Management Corp., Chicago, Ill.
 Gardner & Howe, Memphis, Tenn.
 Hardaway Contracting Co., Columbus, Ga.
 Harza Engineering Co., Chicago.
 Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
 Lee, William S., Charlotte, N. C.
 Main, Inc., Chas. T., Boston, Mass.
 Serrine & Co., J. E., Greenville, S. C.
 Tucker & Laxton, Charlotte, N. C.
 Wheeler, Walter H., Minneapolis, Minn.
 White Engineering Corp., J. G., New York.

—(Drainage and Irrigation.)
 Cramer, Robert, Milwaukee, Wis.
 Ford, Bacon & Davis, Inc., New York.
 Fuller & McClintock, New York, N. Y.
 Hills Co., George B., Jacksonville, Fla.
 Huey, S. E., Monroe, La.

—(Efficiency.)
 Ernst & Ernst, New York, N. Y.
 Whitman, Requaardt & Smith, Balto., Md.

—(Electrical.)
 Battey & Kipp, Inc., Chicago, Ill.
 Engineering Service Corp., Houston, Tex.
 Hoosier Engineering Co., Chicago, Ill.
 Lee, William S., Charlotte, N. C.
 Lockwood Greene Engrs., Inc., New York.
 Main, Inc., Chas. T., Boston, Mass.
 Mullergren, Arthur L., Kansas City, Mo.
 Sanderson & Porter, New York, N. Y.
 Tucker & Laxton, Charlotte, N. C.
 Webb Electric Co., Anderson, S. C.
 White Co., Gilbert C., Durham, N. C.
 Wiley & Wilson, Lynchburg, Va.

—(Electric-Light and Power Plants.)
 Battey & Kipp, Inc., Chicago, Ill.
 Byllesby Engineering and Management Corp., Chicago, Ill.
 Cramer, Robert, Milwaukee, Wis.

Ford, Bacon & Davis, Inc., New York.
 Lee, William S., Charlotte, N. C.
 Main, Inc., Chas. T., Boston, Mass.
 Mullergren, Arthur L., Kansas City, Mo.
 Sanderson & Porter, New York, N. Y.
 Tucker & Laxton, Charlotte, N. C.
 White Engineering Corp., J. G., New York.
 White Co., Gilbert C., Durham, N. C.

—(Flood Control.)
 Harza Engineering Co., Chicago.

—(Forest.)
 Lacey & Co., Jas. D., New York, N. Y.

—(Gas.)
 Byllesby Engineering and Management Corp., Chicago, Ill.
 Ford, Bacon & Davis, Inc., New York.
 Huey, S. E., Monroe, La.

—(Geological.)
 De Kalb, Courtenay, New York City.
 Froehling & Robertson, Richmond, Va.
 Wadleigh & Bailey, Washington, D. C.
 Withers, R. S., Jackson, Miss.

—(Harbor Improvements.)
 Billingsley, James W., New Orleans, La.
 Engineering Service Corp., Houston, Tex.
 Fay, Spofford & Thorndike, Boston, Mass.

—(Heating.)
 Battey & Kipp, Inc., Chicago, Ill.
 Wiley & Wilson, Lynchburg, Va.

—(Hydraulic.)
 Alpaugh & Sons, Chas. W., Manassas, Va.
 Fuller & McClintock, New York, N. Y.
 Harza Engineering Co., Chicago.
 Main, Inc., Chas. T., Boston, Mass.
 Whitman, Requaardt & Smith, Balto., Md.

—(Hydro-electric.)
 Alpaugh & Sons, Chas. W., Manassas, Va.
 Battey & Kipp, Inc., Chicago, Ill.
 Byllesby Engineering and Management Corp., Chicago, Ill.
 Harza Engineering Co., Chicago.
 Lee, William S., Charlotte, N. C.
 Main, Inc., Chas. T., Boston, Mass.
 Mees & Mees, Charlotte, N. C.
 Sanderson & Porter, New York, N. Y.
 Serrine & Co., J. E., Greenville, S. C.
 Tucker & Laxton, Charlotte, N. C.
 White Engineering Corp., J. G., New York.
 Whitman, Requaardt & Smith, Balto., Md.

—(Ice and Refrigerating.)
 Engineering Service Corp., Houston, Tex.

—(Industrial Plants.)
 Battey & Kipp, Inc., Chicago, Ill.
 Billingsley, James W., New Orleans, La.
 Charleston Constructors, Inc., Charleston, S. C.

Consoer, Older & Quinlan, Inc., Chicago.
 Converse & Co., J. B., Mobile, Ala.
 Fay, Spofford & Thorndike, Boston, Mass.
 Gardner & Howe, Memphis, Tenn.
 Greiner & Co., J. E., Baltimore, Md.
 Hills Co., George B., Jacksonville, Fla.
 International Derrick & Equipment Co., Columbus, Ohio.
 Lockwood Greene Engrs., Inc., New York.
 MacElwhee & Crandall, Inc., Cambridge, Mass.
 Main, Inc., Chas. T., Boston, Mass.
 Mees & Mees, Charlotte, N. C.
 Mullergren, Arthur L., Kansas City, Mo.
 Preacher & Co., Inc., G. Lloyd, Atlanta.
 Sanderson & Porter, New York, N. Y.
 Serrine & Co., J. E., Greenville, S. C.
 Smith, Elroy G., Augusta, Ga.
 Turner, C. A., P., Minneapolis, Minn.
 Widmer Engineering Co., St. Louis, Mo.

—(Industrial Survey.)
 Converse & Co., J. B., Mobile, Ala.
 Lockwood Greene Engrs., Inc., New York.
 Wadleigh & Bailey, Washington, D. C.

—(Inspection and Tests.)
 Barrow-Agee Laboratories, Memphis, Tenn.
 Conard, William R., Burlington, N. J.
 Cramer, Robert, Milwaukee, Wis.
 Dow & Smith, New York, N. Y.
 Flood & Co., Walter H., Chicago, Ill.
 Froehling & Robertson, Inc., Richmond, Va.
 Hunt Co., Robert W., Chicago, Ill.
 Pittsburgh Testing Laboratories, Pittsburgh, Pa.
 Southwestern Laboratories, Ft. Worth, Tex.

—(Lighting.)
 Battey & Kipp, Inc., Chicago, Ill.
 Byllesby Engineering and Management Corp., Chicago, Ill.
 Ford, Bacon & Davis, Inc., New York.
 General Electric Vapor Lamp Co., Hoboken, N. J.
 Wiley & Wilson, Lynchburg, Va.

—(Mechanical.)
 Battey & Kipp, Inc., Chicago, Ill.
 Charlton & Davis, Ft. Lauderdale, Fla.
 Engineering Service Corp., Houston, Tex.
 Lee, William S., Charlotte, N. C.
 Lockwood Greene Engrs., Inc., New York.
 Main, Inc., Chas. T., Boston, Mass.
 Mees & Mees, Charlotte, N. C.
 Meigs, Bassett & Slaughter, Phila., Pa.
 Sanderson & Porter, New York, N. Y.
 Wiley & Wilson, Lynchburg, Va.

—(Mining. See Engineers, Geological.)

—(Municipal.)
 Billingsley, James W., New Orleans, La.
 Consoer, Older & Quinlan, Inc., Chicago.
 Dow & Smith, New York, N. Y.

Harrub Engr. Co., C. N., Nashville, Tenn.
Hills Co., George B., Jacksonville, Fla.
Howerton Engineering Co., Asheville, N.C.
Huey, S. E., Monroe, La.
Knowles, Inc., Morris, Pittsburgh, Pa.
McCrary Co., The J. B., Atlanta, Ga.
Spoon & Lewis, Greensboro, N. C.
White Co., Gilbert C., Durham, N. C.

—(Paving and Roads.)
Billingsley, James W., New Orleans, La.
Dow & Smith, New York, N. Y.
Freeland, Roberts & Co., Nashville, Tenn.
Harrub Engr. Co., C. N., Nashville, Tenn.
Howerton Engineering Co., Asheville, N.C.
Spoon & Lewis, Greensboro, N. C.
White Co., Gilbert C., Durham, N. C.

—(Public Service Properties.)
Bylesby Engineering & Management Corp., Chicago, Ill.
Ford, Bacon & Davis, Inc., New York.
Fuller & McClintock, New York, N. Y.
Knowles, Inc., Morris, Pittsburgh, Pa.
Main, Inc., Chas. T., Boston, Mass.
Sanderson & Porter, New York, N. Y.
White Engineering Corp., J. G., New York.

—(Railroad.)
Huey, S. E., Monroe, La.
Mees & Mees, Charlotte, N. C.

—(Reinforced Concrete Bridges, Buildings, etc.)
Atlantic Bridge Co., Greensboro, N. C.
Battley & Kipp, Inc., Chicago, Ill.
Fay, Spafford & Thorndike, Boston, Mass.
Freeland, Roberts & Co., Nashville, Tenn.
Gardner & Howe, Memphis, Tenn.
Greiner & Co., J. E., Baltimore, Md.
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Steel & Lobley, Knoxville, Tenn.
Tucker & Laxton, Charlotte, N. C.
Turner, C. A. P., Minneapolis, Minn.
Wheeler, Walter H., Minneapolis, Minn.

—(Sanitary.)
Cramer, Robert, Milwaukee, Wis.
Harza Engineering Co., Chicago.
Whitman, Requaardt & Smith, Balto., Md.

—(Sewage Disposal Plants.)
Cramer, Robert, Milwaukee, Wis.
Fuller & McClintock, New York, N. Y.
McCrary Co., The J. B., Atlanta, Ga.
Whitman, Requaardt & Smith, Balto., Md.
Wiedeman & Singleton, Inc., Atlanta, Ga.

—(Sewerage and Waterworks.)
Conard, William E., Burlington, N. J.
Consoer, Older & Quinlan, Inc., Chicago.
Ford, Bacon & Davis, Inc., New York.
Fuller & McClintock, New York, N. Y.
Hardaway Contracting Co., Columbus, Ga.
Harrub Engr. Co., C. N., Nashville, Tenn.
Hills Co., George B., Jacksonville, Fla.
Howerton Engineering Co., Asheville, N.C.
Knowles, Inc., Morris, Pittsburgh, Pa.
Mees & Mees, Charlotte, N. C.
Sanderson & Porter, New York, N. Y.
Spoon & Lewis, Greensboro, N. C.
Tucker & Laxton, Charlotte, N. C.
White Co., Gilbert C., Durham, N. C.
White Engineering Corp., J. G., New York.
Whitman, Requaardt & Smith, Balto., Md.
Wiedeman & Singleton, Inc., Atlanta, Ga.

—(Structural.)
Freeland, Roberts & Co., Nashville, Tenn.
Hedrick, Inc., Ira G., Hot Springs Nat'l Park, Ark.
Hills Company, Geo. B., Jacksonville, Fla.
Huey, S. E., Monroe, La.
Lockwood Greene Engrs., Inc., New York.
Southern Erectors, Inc., Tampa, Fla.
Turner, C. A. P., Minneapolis, Minn.
Virginia Bridge & Iron Co., Roanoke, Va.
Whitman, Requaardt & Smith, Balto., Md.

—(Textile Mills.)
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Sirls & Co., J. E., Greenville, S. C.

—(Transmission Lines.)
Hoosier Engineering Co., Chicago, Ill.

—(Ventilating and Heating.)
Wiley & Wilson, Lynchburg, Va.

—(Water Supply.)
Whitman, Requaardt & Smith, Balto., Md.

—(Engines (Compressed Air).)
Dake Engine Co., Grand Haven, Mich.

—(Diesel Type.)
Fairbanks, Morse & Co., Chicago, Ill.

—(Gas and Gasoline.)
Novo Engine Co., Lansing, Mich.
Sterling Engine Co., Buffalo, N. Y.

—(Hoisting.)
Clyde Iron Works Sales Co., Duluth, Minn.

—(Marine.)
Fairbanks, Morse & Co., Chicago, Ill.

—(Oil.)
Ingersoll-Rand Co., New York, N. Y.
Continental Gln Co., Birmingham, Ala.

—(Steam.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Cole Mfg. Co., B. D., Newnan, Ga.
Lefell & Co., James, Springfield, O.
Lombard Iron Works & Supply Co., Augusta, Ga.
Schaffeld's Sons Co., J. S., Macon, Ga.

—(Envelopes.)
Young & Seldon Co., Baltimore, Md.

—(Estimators (Building & Construction).)
Martin, Joe B., Charlotte, N. C.
Spring, Charles Herbert, Greensboro, N.C.

—(Excavating Machinery.)
Bay City Shovels, Inc., Bay City, Mich.
Bucyrus-Erie Co., Erie, Penna.
Clyde Iron Works Sales Co., Duluth, Minn.
Harnischfeger Corp., Milwaukee, Wis.
Hayward Co., The, New York, N. Y.
Industrial Brownholt Corp., Cleveland.
Monaghan Mfg. Corp., Chicago, Ill.
National Equipment Corp. (Koehring, Insley, Parsons), Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Owen Bucket Co., The, Cleveland, Ohio.
Thew Shovel Co., The, Lorain, Ohio.
Universal Power Shovel Co., Milwaukee, Wis.

—(Excavators (Clamshell and Orange Peel).)
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., Lorain, Ohio.

—(Dragline. See Dragline Excavators.)

—(Trench.)
Barber-Greene Co., Aurora, Ill.
Bay City Shovels, Inc., Bay City, Mich.
Buckeye Traction Ditcher Co., Findlay, Ohio.
Bucyrus-Erie Co., Erie, Penna.
Harnischfeger Corp., Milwaukee, Wis.
Hayward Co., The, New York, N. Y.
Monaghan Mfg. Corp., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Universal Power Shovel Co., Milwaukee, Wis.

—(Expansion Joints (Road and Street).)
Carey Co., Philip, Lockland, Cincinnati, Ohio.
Servicised Products Corp., Chicago, Ill.

—(Explosives.)
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

—(Factory Management Systems.)
Ernst & Ernst, New York, N. Y.

—(Feed-Water Heaters and Purifiers.)
American Water Softener Co., Phila., Pa.

—(Fence Posts (Creosoted).)
Ayer & Lord Tie Co., Chicago, Ill.

—(Fencing Entrance Gates (Iron, Steel and Wire).)
American Steel and Wire Co., Balto., Md.
Anchor Post Fence Co., Baltimore, Md.
Cyclone Fence Co., Waukegan, Ill.
Gulf States Steel Co., Birmingham, Ala.
Stewart Iron Works Co., Cincinnati, O.

—(Field and Industrial, Wire Woven.)
American Steel and Wire Co., Balto., Md.
Anchor Post Fence Co., Baltimore, Md.
Cyclone Fence Co., Waukegan, Ill.
Gulf States Steel Co., Birmingham, Ala.
Stewart Iron Works Co., Cincinnati, O.

—(Fertilizer Machinery.)
Raymond Bros., Impact Pulv. Co., Chicago.

—(Filter (For Domestic and Industrial Purposes).)
American Water Softener Co., Phila., Pa.
Bacharach & Co., E. W., Kansas City, Mo.
International Filter Co., Chicago, Ill.
Roberts Filter Mfg. Co., Darby (Phila.), Pa.
Scaife & Sons Co., Wm. B., Oakmont, Pa.

—(Cloth.)
Newark Wire Cloth Co., Newark, N. J.

—(Financing.)
Akers, William, Atlanta, Ga.
Electric Bond & Share Co., New York.
Garraway & Co., S. G., Chicago.
Gay & Co., W. O., New York, N. Y.

—(Fire Clay.)
North American Refractories Co., Cleveland, Ohio.

—(Fire Extinguishers.)
Myers & Bro. Co., The F. E., Ashland, O.

—(Fireproof Building Material.)
Bannon Pipe Co., Louisville, Ky.

—(Doors and Shutters.)
Kinnear Mfg. Co., The, Columbus, Ohio.
Moeschl-Edwards Corr. Co., Cincinnati, O.
Richards-Wilcox Mfg. Co., Aurora, Ill.
Wilson Corp., The J. G., New York City.

—(Fittings (Wire Rope).)
Leach & Sons Rope Co., A., St. Louis.
Roebling's Sons Co., John A., Trenton, N. J.

—(Flanges (Iron and Steel).)
Amer. Cast Iron Pipe Co., Birmingham.
Dart Mfg. Co., E. M., Providence, R. I.
Taylor Forge & Pipe Wks., Chicago, Ill.
U. S. Pipe & Foundry Co., Burlington, N. J.
Vogt Machine Co., Henry, Louisville, Ky.

—(and Flanged Fittings.)
Grinnell Co., Inc., Providence, R. I.

—(Floor (Asphalt Mastic).)
Barber Asphalt Co., Philadelphia, Pa.

—(Asphalt Plank.)
Servicised Products Corp., Chicago, Ill.

—(Cork Composition.)
Congoleum-Nairn, Inc., Kearny, N. J.

—(Hardwood, Maple, Oak.)
Kirby Lumber Co., Houston, Tex.
Nashville Hardwood Flooring Co., Nashville, Tenn.

—(Linoleum.)
Congoleum-Nairn, Inc., Kearny, N. J.

—(Northern Hard Maple.)
Holt Hardwood Co., Oconto, Wis.

—(Open Steel.)
Blaw-Knox Co., Pittsburgh, Pa.
Irving Iron Works Co., Long Is. City, N.Y.
Kerlow Steel Flooring Co., Jersey City, N. J.

—(Covering.)
Congoleum-Nairn, Inc., Kearny, N. J.

—(Hardner (Concrete).)
Sonneborn Sons, Inc., L., New York.

—(Plates and Stair Treads.)
Central Iron & Steel Co., Harrisburg, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—(Steel (For Concrete Culverts, Roads, Streets).)
Blaw-Knox Co., Pittsburgh, Pa.

—(Wax.)
Congoleum-Nairn, Inc., Kearny, N. J.

—(Flush-Tank Siphons.)
Pacific Flush-Tank Co., New York, N. Y.

—(Forgings (Drop).)
Vogt Machine Co., Henry, Louisville, Ky.

—(Form Clamps.)
M & M Clamp Co., Minneapolis, Minn.

—(Forms, Steel (For Concrete Culverts, Roads, Streets, Curbs, Sidewalks, Tiles).)
Blaw-Knox Co., Pittsburgh, Pa.

—(Foundries and Machine Shops.)
Deemer Steel Casting Co., New Castle, Del.
General Machine Works, York, Pa.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.
Goldens' Fdry. & Mch. Co., Columbus, Ga.
Lombard Iron Works & Supply Co., Augusta, Ga.
Mountain State Steel Foundries, Parkersburg, W. Va.
Richmond Foundry & Mfg. Co., Richmond, Va.

—(Foundry Equipment and Supplies.)
Chain Belt Co., Milwaukee, Wis.
Hill & Griffith Co., Cincinnati, O.

—(Facings (Tale and Soap-stone).)
Hill & Griffith Co., Cincinnati, O.

—(Furnace Linings.)
North American Refractories Co., Cleveland, Ohio.

—(Furnaces (Industrial).)
Combustion Engr. Corp., New York City.

—(Water-Cooled.)
Combustion Engr. Corp., New York City.
Fuller Lehigh Co., Fullerton, Pa.

—(Galvanized Products.)
Birmingham Galvanizing Co., Birmingham, Ala.
Cattle & Bros., Jos. P., Philadelphia, Pa.
International Derrick & Equipment Co., Columbus, Ohio.

—(Steel and Iron.)
American Rolling Mill Co., Middletown, O.
American Sheet & Tin Plate Co., Pittsburgh, Pa.
Granite City Steel Co., Granite City, Ill.
Republic Steel Corp., Youngstown, Ohio.

—(Galvanizing (Cadmium Plating).)
Birmingham Galvanizing Co., Birmingham, Ala.

—(Hot Dip.)
Bessemer Galvanizing Works, Birmingham.
Birmingham Galvanizing Co., Birmingham, Ala.
Cattle & Bros., Jos. P., Philadelphia, Pa.
Newport News Shipbuilding & Drydock Co., Newport News, Va.

—(Garages (Metal).)
International Derrick & Equipment Co., Columbus, Ohio.

—(Gas Holders.)
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Atlanta, Ga.

—(Producers.)
Gas-O-Flame Stove Works, Port Deposit, Md.
Wood & Co., R. D., Philadelphia, Pa.

—(Gasoline and Kerosene.)
Gulf Refining Co., Pittsburgh, Pa.

—(Gasoline Shovels (See Shovels).)

—(Gates (Automatic Drainage).)
Armo Culvert Mfrs. Assn., Middletown, O.
Dixie Culvert & Metal Co., Atlanta, Ga.
Dixie Culvert Mfg. Co., Little Rock, Ark.
Louisiana Corr. Culvert Co., Baton Rouge, La.

—(Tenn. Metal Culvert Co., Nashville, Tenn.
Western Metal Mfg. Co., Houston, Texas.

—(Gears.)
DeLaval Steam Turbine Co., Trenton, N.J.
Earle Gear & Machine Co., Phila., Pa.
General Electric Co., Schenectady, N. Y.
Woods' Sons Co., T. B., Chambersburg, Pa.

—(Worm Reduction.)
DeLaval Steam Turbine Co., Trenton, N.J.

—(Generators, Motors (New).)
Century Electric Co., St. Louis, Mo.
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

—(Used.)
Gregory Electric Co., Chicago.
O'Brien Machinery Co., Phila., Pa.
Randle Machinery Co., The, Cincinnati, O.

—(Geologists. (See Engineers, Geological).)

—(Glass (Art).)
Hires Turner Glass Co., Philadelphia, Pa.

—(Plate.)
Blue Ridge Glass Corp., Kingsport, Tenn.
Hires Turner Glass Co., Philadelphia, Pa.
Southwestern Sheet Glass Co., Okmulgee, Okla.

—(Window.)
Blue Ridge Glass Corp., Kingsport, Tenn.
Hires Turner Glass Co., Philadelphia, Pa.
Southwestern Sheet Glass Co., Okmulgee, Okla.

—(Wire.)
Blue Ridge Glass Corp., Kingsport, Tenn.
Hires Turner Glass Co., Philadelphia, Pa.
Southwestern Sheet Glass Co., Okmulgee, Okla.

—(Graders (Elevating).)
Adams Co., J. D., Indianapolis, Ind.
Caterpillar Tractor Co., Peoria, Ill.

—(One Man Motor).
Adams Co., J. D., Indianapolis, Ind.

—(Leaning Wheel Road.)
Adams Co., J. D., Indianapolis, Ind.

—(Graphite.)
Dixon Crucible Co., Jos., Jersey City, N.J.

—(Grates and Grate Bars.)
Schaffeld's Sons Co., J. S., Macon, Ga.
Vogt Machine Co., Henry, Louisville, Ky.

GRATING (Area, Flooring, Slide-walk.)

Blaw-Knox Co., Pittsburgh, Pa.
Hendrick Mfg. Co., Carbondale, Pa.
Irving Iron Works, Long Is. City, N. Y.
Kerlow Steel Flooring Co., Jersey City, N. J.

GRAVEL (Roofing and Road.)
American Limestone Co., Knoxville, Tenn.
Arundel Corp., The, Baltimore, Md.
Boxley & Co., W. W., Roanoke, Va.
Friend & Co., Inc., Petersburg, Va.

GREASE CUPS.
Lunkenheimer Co., The, Cincinnati, O.

GRILLES (Brass, Bronze, Steel, etc.)
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

GRINDERS (Gypsum, Limestone, etc.)
Raymond Bros. Impact Pulv. Co., Chicago.

—**Wheels.**
Carborundum Co., Niagara Falls, N. Y.

GUARD RAIL (Road.)
National Traffic Guard Co., Atlanta.

GUNITE CONSTRUCTION.
Cement-Gun Co., Inc., Allentown, Pa.
Cement Gun Construction Co., Chicago.
Gunite Conc. & Constr. Co., Kansas City
Gunite Constr. Co., New York City.
Rust Engineering Co., Birmingham, Ala.

GUNPOWDER.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

GUNS (Hydraulic.)
Georgia Iron Works, Augusta, Ga.

HANGARS (Airplane.)
Blaw-Knox Co., Pittsburgh, Pa.
Ingalls Iron Works, Birmingham, Ala.
International Derrick & Equipment Co., Columbus, Ohio.

HANGARS (Door, All Kinds.)
Richards-Wilcox Mfg. Co., Aurora, Ill.
—**(Line Shaft.)**
American Pulley Co., Philadelphia, Pa.
Wood's Sons Co., T. B., Chambersburg, Pa.

HARBOR IMPROVEMENTS.
Arundel Corp., Baltimore, Md.
Atlantic, Gulf & Pacific Co., New York.

HARDWARE (Door.)
Richards-Wilcox Mfg. Co., Aurora, Ill.

HEATERS (Asphalt.)
Honhorst Co., Jos., Cincinnati, O.

HEATING Apparatus (Engineers and Contractors.)
Grinnell Co., Inc., Providence, R. I.
Foe Piping & Heating Co., Greenville, S. C.

HOISTING MACHINERY.
Clyde Iron Works Sales Co., Duluth, Minn.
Lidgerwood Mfg. Co., Elizabeth, N. J.

HOISTS (Air Portable.)
Ingersoll-Rand Co., New York, N. Y.
Sullivan Machinery Co., Chicago, Ill.

—**(Chain.)**
Wright Mfg. Co., Lisbon, Ohio.

—**(Electric.)**
Clyde Iron Works Sales Co., Duluth, Minn.
Harnischfeger Corp., Milwaukee, Wis.
Milwaukee Elec. Crane & Hoist Corp., Milwaukee, Wis.
Novo Engine Co., Lansing, Mich.
Street Bros. Mch. Wks., Chattanooga, Tenn.

—**(Gasoline.)**
Clyde Iron Works Sales Co., Duluth, Minn.
Dake Engine Co., Grand Haven, Mich.
Equipment Corp. of America, Chicago, Ill.
National Equipment Corp. (C. H. & E. Division), Milwaukee, Wis.
Novo Engine Co., Lansing, Mich.
Street Bros. Mch. Wks., Chattanooga, Tenn.

—**(Steam.)**
Clyde Iron Works Sales Co., Duluth, Minn.
Dake Engine Co., Grand Haven, Mich.
Street Bros. Mch. Wks., Chattanooga, Tenn.

HOOPS, Bands, etc. (Galvanized.)
Connors Steel Co., Birmingham, Ala.

HOPPERS (Aggregate, Measuring and Weighing.)
Blaw-Knox Co., Pittsburgh, Pa.
Butler Bin Co., Waukegan, Wis.

HOSE (Rubber.)
Republic Rubber Co., Youngstown, Ohio.

HOTELS.
Southern Hotel, The, Baltimore, Md.

HOUSE MOVING.
Eichleay, Jr., Co., John, Pittsburgh.

HUMIDIFYING AND DRYING EQUIPMENT.
Grinnell Co., Inc., Providence, R. I.

HYDRAULIC PRESSES (Car Wheels.)
Tomlin-Harris Machine Co., Cordele, Ga.

HYDRANTS (Fire.)
Ludlow Valve Mfg. Co., The, Troy, N. Y.
Myers & Bro. Co., The, F. E., Ashland, O.
Vogt Brothers Mfg. Co., Louisville, Ky.
Wood & Co., R. D., Philadelphia, Pa.

HYDRO - ELECTRIC POWER COMPANIES (Offering Industrial and Commercial Opportunities.)
Alabama Power Co., Birmingham, Ala.
Georgia Power Co., Atlanta, Ga.
Texas Power & Light Co., Dallas, Texas.

ICE and Refrigerating Machinery and Supplies.
Ingersoll-Rand Co., New York, N. Y.
Vogt Mach. Co., Henry, Louisville, Ky.

INCORPORATORS.
Delaware Registration Trust Co., Wilmington, Del.

INJECTORS.
Randle Machinery Co., The, Cincinnati, O.

INSULATING (Board)
Armstrong Cork & Insulation Co., Lancaster, Pa.

—**Materials.**
General Electric Co., Schenectady, N. Y.
Okonite Co., New York, N. Y.

INVESTMENT SECURITIES.
Electric Bond & Share Co., New York.
Gay & Co., W. O., New York City.
Hanchett Bond Co., Inc., The, Chicago, Ill.
Mercantile Trust Co., Baltimore, Md.
Nuveen & Co., John, Chicago.
Provident Savings Bank & Trust Co., Cincinnati, Ohio.

IRON.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—**(Ingot, For Culverts, etc.)**
American Rolling Mill Co., Middletown, O.

JANITOR SUPPLIES.
Clark, Lloyd T., Southern Pines, N. C.

JOINTS (Pipe.)
Leadite Co., The, Philadelphia, Pa.

KETTLES (Pavers and Roofers.)
Honhorst Co., Jos., Cincinnati, O.

LADDERS (Rolling.)
Myers & Bro. Co., The, F. E., Ashland, O.

—**(Wooden.)**
Patent Scaffolding Co., Chicago, Ill.

LAMPS (Incandescent.)
General Electric Vapor Lamp Co., Hoboken, N. J.
Western Electric Co., New York City.

LATH (Metal.)
Ingalls Iron Works Co., Birmingham, Ala.

LATHES.
Sebastian Lathe Co., Cincinnati, Ohio.

LIGHTING (Factory and Mill.)
General Electric Vapor Lamp Co., Hoboken, N. J.

—**Fixtures (Electric.)**
Western Electric Co., New York City.

LININGS (Flue, Fire Clay.)
Lee Clay Products Co., Clearfield, Ky.
North Amer. Refractories Co., Cleveland.
Owensboro Sewer Pipe Co., Owensboro, Ky.

—**(Tube Mill.)**
Fuller Lehigh Co., Fullerton, Pa.

LINOLEUM (Battleship, Embossed Inlaid, Jaspe.)
Congoleum-Nairn, Inc., Kearny, N. J.

LITHOGRAPHERS and ENGRAVERS.
Smith & Son Co., Oscar T., Baltimore, Md.
Young & Seiden Co., Baltimore, Md.

LOADING and UNLOADING MACHINERY (Portable.)
Barber-Greene Co., Aurora, Ill.
Northwest Engineering Co., Chicago, Ill.

LOCOMOTIVES (Compressed Air.)
Porter Co., H. K., Pittsburgh, Pa.
—**(Fireless Stored Steam.)**
Porter Co., H. K., Pittsburgh, Pa.

—**(Gasoline.)**
Porter Co., H. K., Pittsburgh, Pa.
Whitcomb Co., Geo. D., Rochelle, Ill.

—**(Industrial.)**
Equipment Corp. of America, Chicago, Ill.
Porter Co., H. K., Pittsburgh, Pa.
Southern Iron & Equipment Co., Atlanta.
Whitcomb Co., Geo. D., Rochelle, Ill.

—**(Mining.)**
Porter Co., H. K., Pittsburgh, Pa.
Whitcomb Co., Geo. D., Rochelle, Ill.

—**(Railway.)**
Porter Co., H. K., Pittsburgh, Pa.
Southern Iron & Equipment Co., Atlanta.
Whitcomb Co., Geo. D., Rochelle, Ill.

LOGGING MACHINERY.
Clyde Iron Works Sales Co., Duluth, Minn.

LOOM PICK COUNTER.
Veeder-Root, Inc., Hartford, Conn.

LUBRICANTS.
Dixon Crucible Co., Jos., Jersey City, N. J.
Gulf Refining Co., Pittsburgh, Pa.

LUBRICATORS (Force Feed.)
Lunkenheimer Co., The, Cincinnati, O.

LUMBER (Ceiling, Flooring, Siding.)
Jackson Lumber Co., Lockhart, Ala.
Kirby Lumber Co., Houston, Texas.
Nashville Hardwood Flooring Co., Nashville, Tenn.

—**(Creosoted.)**
Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Ayer & Lord Tie Co., Inc., Chicago.
Carolina Wood Preserving Co., Charleston, S. C.

Delaware Wood Preserving Co., Phila.
Eppinger & Russell Co., New York, N. Y.
Gulf States Creos. Co., Hattiesburg, Miss.
Savannah Creos. Co., Savannah, Ga.

—**(Heavy Construction, Pitch, Pine, etc.)**
Kirby Lumber Co., Houston, Texas.

—**(Zinc Meta Arsenite Treated.)**
Curtin-Howe Corp., New York City.

MACHINERY (Special.)
Bliss Co., E. W., Brooklyn, N. Y.
Earle Gear & Machine Co., Phila., Pa.
Fernholtz Machinery Co., St. Louis, Mo.
General Machine Works, York, Pa.

—**and Supplies (New and Used.)**
Adams Mch. Co., T. G., Savannah, Ga.
Electric Service Co., Cincinnati, Ohio.
Marine Metal & Supply Co., New York.
O'Brien Machinery Co., The, Phila., Pa.
Randle Machinery Co., The, Cincinnati, O.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

Samler Mch. & Equip. Co., Baltimore.
Seyfert's Sons, Inc., L. F., Phila., Pa.
Zelicker Supply Co., W. A., St. Louis.

MACHINERY REPAIRING (Motors, Generators, etc.)
Nussbaum & Co., V. M., Fort Wayne, Ind.

MACHINE TOOLS
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

Sebastian Lathe Co., Cincinnati, Ohio.

—**(Used.)**
Delta Equipment Co., Philadelphia, Pa.
O'Brien Machinery Co., Philadelphia, Pa.

MAIL CHUTES.
Cutler Mail Chute Co., Rochester, N. Y.

MARBLE (Producers and Manufacturers.)
Georgia Marble Co., The, Tate, Ga.

MATERIAL ELEVATORS.
National Equipment Corp. (Inslay, C. H. & E.), Milwaukee, Wis.

METAL-Cutting Machinery.
Earle Gear & Machine Co., Phila., Pa.

—**Working Machinery.**
Bliss Co., E. W., Brooklyn, N. Y.

MILL MACHINERY and SUPPLIES.
Lombard Iron Works & Supply Co., Augusta, Ga.

MIXERS.
National Equipment Corp. (Koehring, T. L. Smith, Kwik-Mix), Milwaukee, Wis.

—**(Asphalt.)**
Earle Machine Shops, Erie, Pa.

—**(Hot.)**
Koehring Co., Milwaukee, Wis.

—**(Mortar.)**
Chain Belt Co., Milwaukee, Wis.
Jaeger Machine Co., Columbus, Ohio.

—**(Plaster.)**
Blystone Mfg. Co., Cambridge Springs, Pa.
Chain Belt Co., Milwaukee, Wis.
Dunning & Boschert Press Co., Syracuse, N. Y.
Jaeger Machine Co., Columbus, Ohio.

MORTAR INGREDIENT.
Louisville Cement Co., Louisville, Ky.

MOTORS (Electric.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Century Electric Co., St. Louis, Mo.
Fairbanks, Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Western Electric Co., New York City.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

MOTOR TRUCKS.
International Harvester Co. of America, Inc., Chicago, Ill.

NAILS (Cut.)
Reading Iron Co., Reading, Pa.

—**and Spikes.**
American Steel & Wire Co., Balto., Md.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

NAPHTHA (Industrial.)
White Oak Refining Co., Tulsa, Okla.

OIL (Fuel and Gas.)
Gulf Refining Co., Pittsburgh, Pa.
White Oak Refining Co., Tulsa, Okla.

—**Cups.**
Lunkenheimer Co., The, Cincinnati, O.

ORE-WASHING MACHINERY.
Georgia Iron Works, Augusta, Ga.

ORNAMENTAL BRONZE WORK.
Heath Co., J. S., Waukegan, Ill.
Michals Art Bronze Co., Covington, Ky.

—**Iron Work.**
Michals Art Bronze Co., Covington, Ky.
Roanoke Iron & Bridge Wks., Roanoke, Va.
Snead Architectural Iron Works, Louisville, Ky.
Southern Engineering Co., Charlotte, N. C.
Stewart Iron Works Co., Cincinnati, O.

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Hinde & Dauch Paper Co., Sandusky, O.

PACKING (Asbestos, Metallic, Rubber, Leather, etc.)
Palmer Asbestos & Rubber Corp., Chicago.
Republic Rubber Co., Youngstown, Ohio.

PAINT (Aluminum.)
Aluminum Co. of America, Pittsburgh, Pa.

—**(Metal Surfaces.)**
Aluminum Co. of America, Pittsburgh, Pa.
Dixon Crucible Co., Jos., Jersey City, N. J.

—**(Mill White, For Interior.)**
Aluminum Co. of America, Pittsburgh, Pa.
Sonneborn Sons, Inc., L., New York.

—**(Preservative.)**
Cabot, Inc., Samuel, Boston, Mass.
Foster Co., Benjamin, Philadelphia, Pa.

PANELBOARDS.
Adam Electric Co., Frank, St. Louis.

PAPER BOXES (Corrugated, Shipping.)
Hinde & Dauch Paper Co., Sandusky, O.

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Seymour & Bright, Washington, D. C.

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Haas Pattern Co., A. W., Atlanta, Ga.

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American Creosote Works, New Orleans.

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Servicised Products Corp., Chicago, Ill.

—(Brick.)

National Paving Brick Mfrs. Assn., Washington, D. C.

—(Breaker.)

Gardner-Denver Co., Quincy, Ill.

—Mixers.

National Equipment Corp. (Kochring, T. L. Smith), Milwaukee, Wis.

—Plant (Asphalt.)

Simplicity System Co., Chattanooga, Tenn.

PENSTOCKS.

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago, Bridge & Iron Works, Atlanta.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Smith Co., S. Morgan, York, Pa.

PERFORATED METAL.

Chicago Perforating Co., Chicago, Ill.
Erdle Perforating Co., Rochester, N. Y.
Harrington & King Perf. Co., Chicago.
Hendrick Mfg. Co., Carbondale, Pa.
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.
Mundt & Sons, Charles, Jersey City, N. J.

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Gulf Refining Co., Pittsburgh, Pa.
White Oak Refining Co., Tulsa, Okla.

PHOSPHATE ACID.

Davison Chemical Co., Baltimore, Md.

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Sloss-Sheffield Steel & Iron Co., Birmingham, Ala.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

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Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville.
Ayer & Lord Tie Co., Inc., Chicago.
Carolina Wood Preserving Co., Charleston, S. C.
Savannah Creosoting Co., Inc., Savannah.
Wales Wood-Preserving Co., Norfolk, Va.

—(Steel Sheet.)

Carnegie Steel Co., Pittsburgh, Pa.
Schlacker Supply Co., W. A., St. Louis.

—(Yellow Pine.)

Jackson Lumber Co., Lockhart, Ala.

PILLOW BLOCKS.

Goldens' Fdry. & Mch. Co., Columbus, Ga.

PIPE.

Albert & Davidson Pipe Corp., Brooklyn, N. Y.
Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.
Armco Culvert Mfrs. Assn., Middletown, O.
Birmingham Boiler & Engr. Co., Birmingham, Ala.
Central Pipe & Supply Co., Charleston, W. Va.
Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.
Greenspon's Sons Iron & Steel Co., St. Louis, Mo.
Hudson Pipe & Supply Co., Bayonne, N. J.
Maryland Pipe & Steel Corp., Baltimore, Md.
National Tube Co., Pittsburgh, Pa.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.

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Amer. Cast Iron Pipe Co., Birmingham.
Cast Iron Pipe Research Assn., Chicago.
Central Foundry Co., The, New York, N. Y.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.

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—(Dredge.)

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National Tube Co., Pittsburgh, Pa.

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Ryerson & Son, Inc., Jos. T., St. Louis and New York.

—(Riveted.)

Abendroth & Root Mfg. Co., New York.

—(Second-Hand.)

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Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.

Central Pipe & Sup. Co., Charleston, W. Va.

Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.
Greenspon's Sons Iron & Steel Co., St. Louis, Mo.
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Abendroth & Root Mfg. Co., New York.

Taylor Forge & Pipe Wks., Chicago, Ill.

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National Tube Co., Pittsburgh, Pa.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.
Republic Steel Corp., Youngstown, Ohio.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

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Welded Products Co. of La., Inc., New Orleans, La.

—(Wrought Iron.)

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—Benders and Headers.

Grinnell Co., Inc., Providence, R. I.

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American Pipe Bending Machine Co., Boston, Mass.

—Coatings.

Foster Co., Benjamin, Philadelphia, Pa.

—Fittings.

Amer. Cast Iron Pipe Co., Birmingham.

Georgia Iron Works, Augusta, Ga.

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Dart Mfg. Co., E. M., Providence, R. I.

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Grinnell Co., Inc., Providence, R. I.

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Power Piping Co., Pittsburgh, Pa.

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Carnegie Steel Co., Pittsburgh, Pa.
Central Iron & Steel Co., Harrisburg, Pa.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Granite City Steel Co., Granite City, Ill.
Gulf States Steel Co., Birmingham, Ala.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Tennessee Coal, Iron & Railroad Co., Birmingham.

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Amer. Creosoting Co., Inc., Louisville, Ky.
Ayer & Lord Tie Co., Inc., Chicago.
Brown Wood Preserving Co., Louisville, Ky.
Carolina Wood Preserving Co., Charleston, S. C.
Savannah Creosoting Co., Savannah, Ga.

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National Tube Co., Pittsburgh, Pa.

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Combustion Engr. Corp., New York City.

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Bliss Co., E. W., Brooklyn, N. Y.

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DeLaval Steam Turbine Co., Trenton, N. J.
Erie Pump & Engine Wks., Medina, N. Y.
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La Bour Co., Elkhart, Ind.
Layne & Bowler, Inc., Memphis, Tenn.
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Novo Engine Co., Lansing, Mich.

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Ellicott Machine Corp., Baltimore, Md.
Erie Pump & Engine Wks., Medina, N. Y.
Georgia Iron Works, Augusta, Ga.

—(Steam.)
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.
Fairbanks, Morse & Co., Chicago, Ill.
Ingersoll-Rand Co. (A. S. Cameron Steam Works), New York, N. Y.

—(Vacuum.)
Ingersoll-Rand Co., New York, N. Y.
Sullivan Machinery Co., Chicago, Ill.

—(Water Works.)
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Smith & Co., W. M., Birmingham, Ala.
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Zelnicker Supply Co., W. A., St. Louis.

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Woodstock Slag Corp., Birmingham, Ala.

—Graders and Scrapers.
Adams Co., J. D., Indianapolis, Ind.
Caterpillar Tractor Co., Peoria, Ill.

—Oils and Preservatives.
Gulf Refining Co., Pittsburgh, Pa.

—Reinforcement (Welded Fabric.)
American Steel & Wire Co., Balto., Md.

—Rollers (Steam and Gasoline.)
Buffalo-Springfield Roller Co., Spring-
field, O.
Erie Machine Shops, Erie, Pa.
Huber Mfg. Co., The, Marion, Ohio.

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Buffalo-Springfield Roller Co., Spring-
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Republic Steel Corp., Youngstown, Ohio.
Ryerson & Son, Jos. T., St. Louis and
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Truscon Steel Co., Youngstown, Ohio.
Youngstown Sheet and Tube Co., Youngs-
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Schofield's Sons Co., J. S., Macon, Ga.

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National Equipment Corp., (C. H. & E.
Division), Milwaukee, Wis.

SAWS (Cold Metal.)
Earle Gear and Machine Co., Phila., Pa.

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Patent Scaffolding Co., Chicago, Ill.

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Harris Co., B. W. & Leo, Minneapolis,
Minn.
Sauerman Bros., Chicago, Ill.

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Road Construction.)**
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**SCREENS (Sand, Gravel, Stone,
Coal, Ore, etc.)**
Chicago Perforating Co., Chicago, Ill.
Erdie Perforating Co., Rochester, N. Y.
Hendrick Mfg. Co., Carbondale, Pa.
Ludlow Saylor Wire Co., St. Louis, Mo.
Mundt & Sons, Charles, Jersey City, N. J.
Universal Crusher Co., Cedar Rapids, Ia.

—(Sifting.)
Newark Wire Cloth Co., Newark, N. J.

SCREW-Machine Products.
Progressive Mfg. Co., Torrington, Conn.

SCREWS (Machine.)
Progressive Mfg. Co., Torrington, Conn.

SEAWALLS.
Shore-Line Builders, Inc., Jacksonville, Fla.

SEPARATORS (Dust.)
Raymond Bros., Impact Pulv. Co., Chicago.

SEWAGE Disposal Apparatus.
Pacific Flush-Tank Co., New York, N. Y.

SEWER Joint Compounds.
Pacific Flush-Tank Co., New York, N. Y.
Servicised Products Corp., Chicago, Ill.

—Pipe (Vitrified.)
Bannon Pipe Co., Louisville, Ky.
Des Co., Wm. E., Oak Hill, Ohio.
Lee Clay Products Co., Clearfield, Ky.
Owensboro Sewer Pipe Co., Owensboro, Ky.

SHAFTING.
Ryerson & Sons, Inc., Jos. T., St. Louis
and New York.

—Material (Tubular.)
National Tube Co., Pittsburgh, Pa.

SHARPENING Stones.
Carborundum Co., Niagara Falls, N. Y.

**SHEET Metal Working Ma-
chinery.**
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Whitney Metal Tool Co., Rockford, Ill.
Yoder Co., The, Cleveland, Ohio.

—Steel and Iron.
American Rolling Mill Co., Middletown, O.
American Sheet and Tin Plate Co., Pitts-
burgh, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Granite City Steel Co., Granite City, Ill.
Gulf States Steel Co., Birmingham, Ala.
Republic Steel Corp., Youngstown, Ohio.
Ryerson & Son, Inc., Jos. T., St. Louis
and New York.
Tennessee Coal, Iron & Railroad Co.,
Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngs-
town, O.

SHEETS (Asbestos.)
Ruberoid Co., New York City.

SHINGLES (Asbestos.)
Ruberoid Co., New York City.

—(Stain.)
Cabot, Inc., Samuel, Boston, Mass.

**SHIPPING CARTONS (Cor-
rugated Paper.)**
Hinde & Dauch Paper Co., Sandusky, O.

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Electric Power.)**
Buckeye Traction Ditcher Co., Findlay,
Ohio.
Bucyrus-Erie Co., Erie, Penna.
Harnischfeger Corp., Milwaukee, Wis.
Industrial Brownhoist Corp., Cleveland, O.
National Equipment Corp., (Koehring,
Insley), Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.
Universal Power Shovel Co., Milwaukee,
Wis.

SHUTTERS (Steel.)
Merchant & Evans Co., Philadelphia, Pa.

—(Steel and Wood Bifolding.)
Kinnear Mfg. Co., The, Columbus, Ohio.

SIEVES (Testing.)
Newark Wire Cloth Co., Newark, N. J.

SILICATE OF SODA.
Grasselli Chemical Co., Inc., Birmingham.

SITES (Manufacturing.)
Alabama Power Co., Birmingham, Ala.
Atlanta and West Point R. R., Atlanta.
Brown & Co., Chattanooga, Tenn.
Central of Georgia Rwy., Savannah, Ga.

Fort Worth Chamber of Commerce, Fort Worth, Texas.
Galveston, City of, Galveston, Texas.
Georgia Power Co., Atlanta, Ga.
Jacksonville, City of, Jacksonville, Fla.
Missouri-Kansas-Texas Lines, Dallas, Tex.
Model Land Company, (Flagler System), St. Augustine, Fla.
New Orleans Ch. of Com., New Orleans, La.
Norfolk-Portsmouth Ch. of Commerce Norfolk, Va.
Norfolk & Western Railway, Roanoke, Va.
Tennessee Central Railway, Nashville.
Texas Power & Light Co., Dallas, Texas.

SKYLIGHTS.

Milcor Steel Co., Milwaukee, Wis.

SLABS (Concrete Floor.)

Federal-American Cement Tile Co., Chicago.

—(Concrete Roof.)

Federal-American Cement Tile Co., Chicago.

SLAG, For Concrete.

Bloss-Sheffield Steel and Iron Co., Birmingham, Ala.
Woodstock Slag Corp., Birmingham, Ala.

—(Furnace.)

Bloss-Sheffield Steel and Iron Co., Birmingham, Ala.
Woodstock Slag Corp., Birmingham, Ala.

SLINGS (Chain.)

Woodhouse Chain Works, Trenton, N. J.

—(Wire Rope.)

Boehling's Sons Co., John A., Trenton, N. J.

SLUICE GATES AND APPLIANCES.

Smith Co., S. Morgan, York, Pa.

SNATCH BLOCKS (For Wire and Manila Rope.)

Patterson Co., W. W., Pittsburgh, Pa.

SPEED REDUCERS.

Earle Gear & Mach. Co., Phila., Pa.

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Bethlehem Steel Co., Bethlehem, Pa.
Republic Steel Corp., Youngstown, Ohio.
Sweet's Steel Co., Williamsport, Pa.

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—(Wire—All Kinds.)

American Steel & Wire Co., Baltimore, Md.

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Grinnell Co., Inc., Providence, R. I.

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Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge and Iron Works, Atlanta.
Downingtown Iron Works, Downingtown, Pa.
Hammond Iron Works, Warren, Pa.
Hedges Walsh Weldner Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
Lombard Iron Works & Supply Co., Augusta, Ga.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
U. S. Pipe & Foundry Co., Burlington, N. J.
Virginia Bridge & Iron Co., Roanoke, Va.

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STAIR Steps (Safety.)

Irving Iron Works Co., Long Is. City, N. Y.

—Treads.

Central Iron & Steel Co., Harrisburg, Pa.

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American Pulley Co., Philadelphia, Pa.

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Hammond Iron Works, Warren, Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

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Young & Selden Co., Baltimore, Md.

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Bucyrus-Erie Co., Erie, Pa.
Thew Shovel Co., The, Lorain, Ohio.

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Mueller Co., Decatur, Ill.

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Central Iron & Steel Co., Harrisburg, Pa.
Dietrich Brothers, Baltimore, Md.
Gulf States Steel Co., Birmingham, Ala.
Republic Steel Corp., Youngstown, Ohio.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Alloy.)

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American Steel & Wire Co., Balto., Md.

—(Information Only.)

American Institute of Steel Construction, Inc., New York City.

—(Special Analysis.)

Timken Roller Bearing Co., Canton, Ohio

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Bethlehem Steel Co., Bethlehem, Pa.

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Belmont Iron Works, Philadelphia, Pa.
Butler Mfg. Co., Kansas City, Mo.
Carolina Steel & Iron Co., Greensboro, N. C.
Champion Bridge Co., Wilmington, O.
Eichleay, Jr., Co., John, Pittsburgh, Pa.
Ingalls Iron Works Co., Birmingham, Ala.
International Derrick & Equipment Co., Columbus, Ohio.
McClintic-Marshall Co., Pittsburgh, Pa.
Phoenix Iron Co., The, Phila., Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Virginia Bridge & Iron Co., Roanoke, Va.

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Bristol Steel & Iron Works, Inc., Bristol, Va.
Carolina Steel & Iron Co., Greensboro, N. C.
Central Iron & Steel Co., Harrisburg, Pa.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Atlanta, Ga.
Combustion Engr. Corp., New York City.
Hammond Iron Works, Warren, Pa.
Hedges Walsh Weldner Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
Lancaster Iron Works, Inc., Lancaster, Pa.
Phoenix Iron Co., The, Phila., Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Troyer Engr. & Mfg. Co., Allentown, Pa.

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Babcock & Wilcox Co., The, New York City.
Combustion Engr. Corp., New York City.

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Electric Storage Battery Co., Philadelphia.

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STRIPS (Steel.)

American Steel & Wire Co., Balto., Md.

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Bessemer Galvanizing Works, Birmingham.

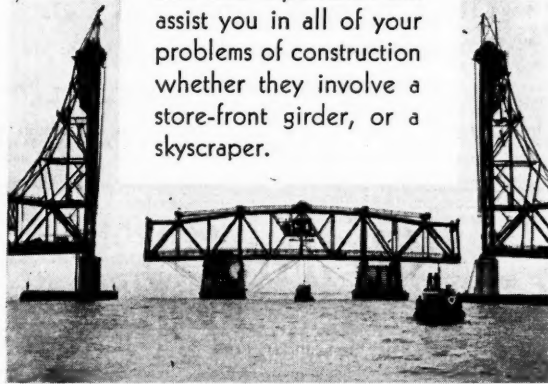
—and Iron.

American Bridge Co., New York, N. Y.
Belmont Iron Works, Philadelphia, Pa.
Bristol Steel & Iron Works, Inc., Bristol, Va.
Carnegie Steel Co., Pittsburgh, Pa.
Carolina Steel & Iron Co., Greensboro, N. C.
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Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
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Dietrich Brothers, Baltimore, Md.
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McClintic-Marshall Co., Pittsburgh, Pa.
Nashville Bridge Co., Nashville, Tenn.
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Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
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Roanoke Iron & Bridge Works, Inc., Roanoke, Va.
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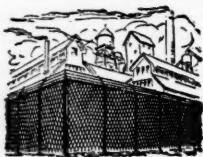
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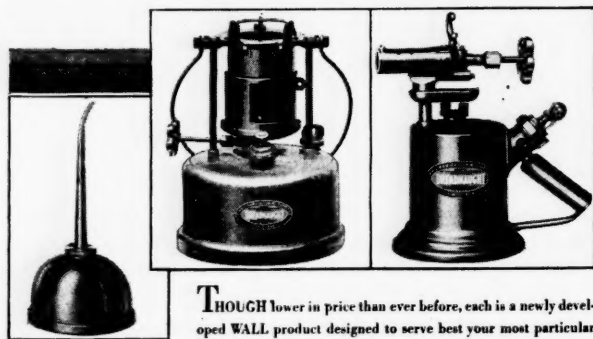
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Du Pont de Nemours & Co., Inc., E. I.,
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Babcock & Wilcox Co., The, New York.

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MacElwee & Crandall, Inc., Cambridge,
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Technical Service Co., New York, N. Y.
—(Quantity.)

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Rowan, W. E., Charlotte, N. C.
Spring, Charles Herbert, Greensboro, N. C.

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Westinghouse Elec. & Mfg. Co., E. Pitts-
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Chattanooga Boiler & Tank Co., Chat-
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Pittsburgh-Des Moines Steel Co., Pitts-
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Schofield's Sons Co., J. S., Macon, Ga.
Virginia Bridge & Iron Co., Roanoke, Va.

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Davis & Son, G. M., Palatka, Fla.

—(Iron and Steel.)

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Chattanooga Boiler & Tank Co., Chat-
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Chicago Bridge & Iron Wks., Atlanta, Ga.
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Hammond Iron Works, Warren, Pa.

Lancaster Iron Works, Inc., Lancaster, Pa.
Lombard Iron Works & Supply Co., Au-
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McClintic-Marshall Co., Pittsburgh, Pa.
Pittsburgh-Des Moines Steel Co., Pitts-
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Scaife & Sons, Wm. B., Oakmont, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
Titusville Iron Works Co., Titusville, Pa.
Virginia Bridge & Iron Co., Roanoke, Va.
Westinghouse Traction Brake Co., Wil-
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National Tube Co., Pittsburgh, Pa.

—(Storage, Oil, etc.)

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Birmingham Boiler & Engr. Co., Bir-
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Chattanooga Boiler & Tank Co., Chat-
tanooga, Tenn.

Chicago Bridge & Iron Wks., Atlanta, Ga.
Downingtown Iron Works, Downingtown, Pa.
Hammond Iron Works, Warren, Pa.
Ingalls Iron Works Co., Birmingham, Ala.
Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.

Titusville Iron Works Co., Titusville, Pa.

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—(Wood.)

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International Derrick & Equipment Co.,
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Caterpillar Tractor Co., Peoria, Ill.

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Cleveland Tractor Co., Cleveland, Ohio.

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Gulf States Steel Co., Birmingham, Ala.
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Cyclone Fence Co., Waukegan, Ill.**—(Flat and Round.)**
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Roebbling's Sons Co., John A., Trenton, N.J.
Seneca Wire & Mfg. Co., Fostoria, O.**—(Galvanized and Annealed.)**
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Ludlow Saylor Wire Co., St. Louis, Mo.
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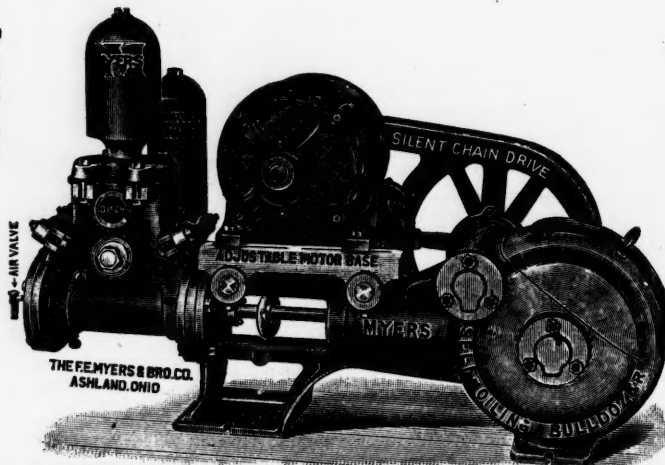
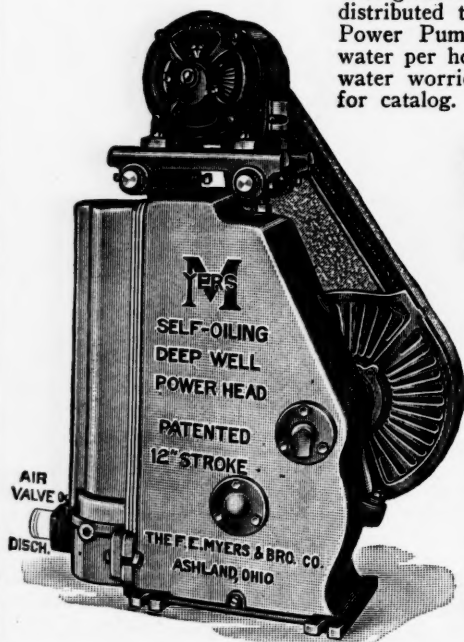
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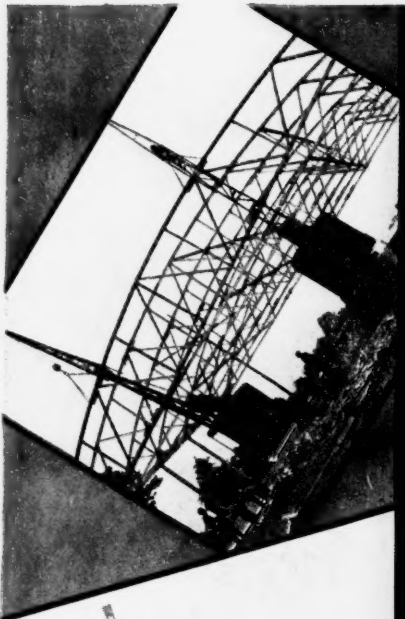
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